ABSTRACT OF

The Hunterian Lectures

ON

THE ANATOMY, PHYSIOLOGY, AND PATHOLOGY OF THE IMPERFECTLY DESCENDED TESTIS.

Delivered before the Royal College of Surgeons of England on Feb. 24th, 26th, and 28th, 1902,

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LECTURE I.

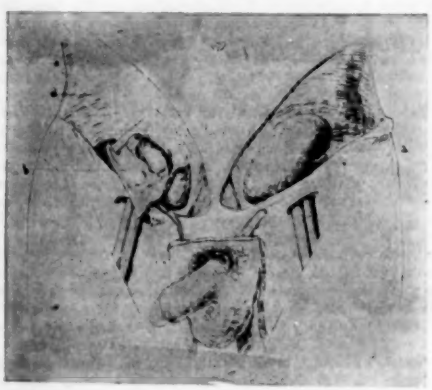
Delivered on Feb. 24th.

MR. PRESIDENT AND GENTLEMEN, — The imperfectly descended testis has during recent years claimed an increasing amount of attention, and while there has not been advanced much that is novel, yet the importance of the lesion from a surgical point of view has been more clearly demonstrated. It is my intention in these lectures to bring together the chief facts so far as they are known at the present time concerning the anatomy, physiology, and pathology of the testis which has not reached its normal position in the scrotum.

ANATOMY.

The human testis may be arrested at some spot in the normal route along which it migrates—namely, within the abdomen, in the inguinal canal, just below the superficial abdominal ring, and in the higher part of the scrotum. (Fig. 1.) These constitute non-descent, partial descent, or

FIG. 1.

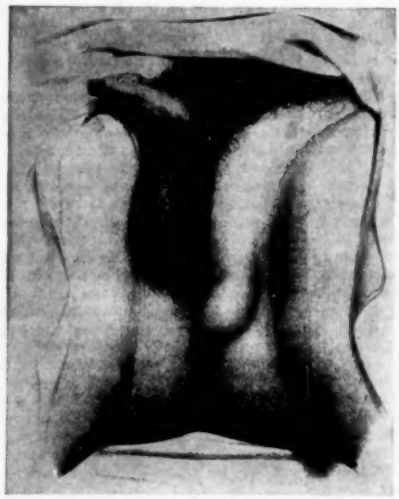


Inguinal retention of both testes. *a*, Unopened processus vaginalis of left side. *b*, Opened processus vaginalis of right side. *d*, Fibres of internal oblique. (Bredahl, 1824.)

retention. Or the testis, having proceeded as far as the exit of the inguinal canal, may pass into an unnatural position, such as the perineum, Scarpa's triangle, the root of the penis, or upon the superficial surface of the aponeurosis of the external oblique muscle of the abdomen. These constitute abnormal descent or ectopia. (Fig. 2.)

It would occupy too great an amount of time to do more than indicate the several conditions which have been considered to be the causes of the arrest of the human testis in its passage along the normal route of its transition. For the sake of brevity they may be classified as follows. 1. Conditions associated with the mesorchium: (*a*) the mesorchium may be too long, the testis would therefore probably hang too freely in the abdominal cavity and would thus be prevented from engaging the ostium of the processus vaginalis; (*b*) adhesions between the peritoneum forming the mesorchium and the adjacent portion of the serous membrane, generally the outcome of intra-uterine fœtal peritonitis; and

FIG. 2.



A left testis lying in the perineum. The testis was of the size of an almond and its component parts could be readily made out through the skin. The left half of the scrotum was entirely undeveloped. The right testis was of normal size in the right half of the scrotum. (Godard.)

(*c*) abnormal persistence of the plica vascularis. 2. Conditions associated with the testis and its component parts: (*a*) the spermatic vessels may be too short; (*b*) the vas deferens may be of insufficient length; (*c*) the epididymis may be abnormal in size; (*d*) there may be a fusion of the two testes—synorchism; and (*e*) certain forms of hermaphroditism. 3. Conditions associated with the gubernaculum testis: (*a*) absence of the upper normal attachments of the gubernaculum; (*b*) deficiency of its muscular fibres; and (*c*) deficiency or absence of its scrotal attachments. 4. Conditions associated with the cremaster: (*a*) retraction of the testis after it has descended to its usual habitat in the scrotum; and (*b*) want of action of the internal fibres of the cremaster before the testis has reached the inguinal canal. 5. Conditions associated with the route along which the testis has to pass: (*a*) ill-development of the inguinal canal; (*b*) ill-development of the superficial abdominal ring; and (*c*) ill-development of one-half of the scrotum. 6. Other conditions, such as the wearing of a truss preventing the onward passage of the organ into the scrotum. In some cases the body of the testis may be retained in the canal, while the epididymis and vas pass into the scrotum.

There are probably only two causes of the abnormal descent of the human testis, or ectopia of the organ: one is that the testis is drawn into its unusual position by the traction of certain sets of fibres of the gubernaculum testis; the other is that the testis is pushed into its abnormal site by an advancing hernia. In connexion with the first it is necessary to remember that the lower attachments of the gubernaculum are not only into the tissue at the bottom of the scrotum, but that there are also at least three other additional sites in which they may terminate. These accessory fibres may be of a permanent nature or only transitory in their existence. The actual regions in which they have been observed are the perineum, Scarpa's triangle, about the root of the penis, and towards the anterior superior spine of the ilium in front of the aponeurosis of the external oblique muscle of the abdomen. Those fibres which pass into the perineum may terminate by the side of the anus, may blend with the external sphincter ani, or may be attached to the ramus of the ischium. With regard to the fibres which pass into the neighbourhood of Scarpa's triangle they are fairly constant, but are only found at a comparatively early stage of intra-uterine life, disappearing as a

rule about two months before birth. In spite of this it is a fact that the testis would seem to pass into the area of the femoral triangle even as late as commencing adult life. It is not clear, therefore, that the gubernaculum can always be said to have the credit of having caused the abnormal position.

It is extremely doubtful whether the testis has ever reached the upper part of the thigh by a spontaneous passage through the femoral ring. The classical instances which are quoted in support of this view are not altogether convincing as to the exact path along which the testis moved, some of the cases being very inadequately reported. Nearly always with the testis in Scarpa's triangle the spermatic cord can by careful manipulation be traced, not through the femoral ring, but up to and through the superficial abdominal ring, thus proving that the organ left the abdomen by the inguinal canal, and it was only after its exit from the superficial abdominal ring that it passed into the upper part of the thigh. That a hernia in its advance may force a testis from its normal course into a position which is altogether unusual for it, is fairly certain, and most, if not all, of those instances in which a testis is found lying on the aponeurosis of the external oblique muscle superficial to the inguinal canal are in reality examples of this pushing and not of the drawing action exerted by fibres of the gubernaculum.

Into whatever position the testis unnaturally passes it takes with it a process of peritoneum termed the processus vaginalis testis, provided that the pouch remains connected with the general peritoneal cavity, or the tunica vaginalis if it is shut off from it.

While thus reviewing the imperfect and the abnormal descent of the human testis it is well to remember in connexion with the pathological conditions that may be associated with the same that what may be imperfect or abnormal descent in the human subject may be the natural or perfect condition in other animals. Taking only the vertebrata in which the testis has an inclination to descend it will be found that the testis remains permanently within the abdomen near to the region of the kidney in certain animals, of which the snake, the pigeon, and the frog are typical examples. In these, therefore, there is practically no descent whatever. In the hedgehog, on the other hand, while the testis does certainly continue to reside within the abdomen, yet it has descended so far as to lie close to the deep ring, the entrance to the inguinal canal. Here there is an attempt to reach the region of the scrotum, but it is an abortive one. In the hare the testis has left the confines of the abdominal cavity and is placed in the inguinal canal, which indicates a still further attempt to descend.

In those animals other than man in which the testis has reached the scrotum it may still retain some indication of imperfection when compared with the human subject. In apes, for instance, it is the rule that the processus vaginalis should permanently remain patent. In the pig the testes normally pass into the perineum, the scrotum never being distended, while in the marsupials they occupy a position which is pre-penial.

It is also worthy of note that the position of the testis in some animals is not permanently scrotal, but that the organ descends only during the period of annual sexual activity into this pouch, being withdrawn again into the abdomen or the inguinal canal when this season is over. Further, in some other animals the testis, which is of comparatively small size ordinarily, becomes considerably enlarged during the breeding season, returning to its more usual size when the period is past. The actual size of the testis compared to the weight of the animal to which it belongs varies greatly in different classes. In many carnivorous animals, as, for instance, in the cat or the dog, the testes are relatively small. Herbivorous animals, such as the goat and the ram, on the contrary, have proportionately large testes. In the human subject the testis that has normally descended into the lowest part of the scrotum is fully developed, but if it should be arrested then there is a great probability of imperfect development. But, on the other hand, in those animals in which the testis naturally lingers in its descent or does not even start to descend the development of the organ will be perfect. There is, therefore, some subtle influence at work in the testis of the higher vertebrates which renders full descent in the vast majority of cases necessary to, or concomitant with, full development. It is also a fact that the various pathological conditions associated with imperfect descent in the human subject are unknown, or almost unknown, in those animals in which the testes never transgress the limits of the abdominal wall.

The effect of imperfect descent upon the testicle itself, in so far as its anatomical characters are concerned, lies chiefly in the fact that, as a rule, the organ is smaller than its normally-placed fellow, or, at any rate, smaller than a testis should be of an individual of the same age whose testes are in their proper position. While, however, it is a truth that the testis is so frequently not of its usual magnitude when it is imperfectly descended, yet it must be remembered that this want of growth is not invariable and that about 5 per cent. are of normal size in spite of their occupying situations other than the lowest limit of the scrotum. This proportion is undoubtedly a comparatively small one, and even in these, without confirmatory microscopical examination of the glandular structure, it is impossible to be quite certain that the testis, although apparently of its proper size, has not its ultimate tissue imperfect in its development.

There are at least three ways in which the abnormal condition of the imperfectly descended testis can be viewed. The first is that there has been an initial want of proper formation of the organ altogether apart from the want of complete descent. The second is that the organ proceeds in its usual growth up to the period of the commencement of sexual life, but never enlarges and undergoes that full development which should accompany the onset of puberty. The third is that the testis does acquire its normal size and with it its complete physiological function at puberty, but that owing to its abnormal position it is soon involved in retrogressive changes, producing in the end entire atrophy of the seminal tubules and a consequent loss of activity. It must be confessed that there is still a want of clear evidence in favour of any one of these three suggestions, and it may be possible that each should have its quota of cases placed under its respective heading.

The testis as it lies in the abdomen close by the kidney, in the iliac fossa, or just within the deep abdominal ring, or when it has passed into, but not out of, the canal, or, further, when it has only reached just below the superficial ring, or the upper part of the scrotum, is undoubtedly in the majority of instances smaller and softer than a normally placed organ. In shape the arrested testis may closely resemble that of the perfect organ, or it may widely differ therefrom. If the epididymis has passed beyond the site of the body of the testis this condition will materially alter its shape. Moreover, its internal structure on section contrasts markedly with that which is fully developed.

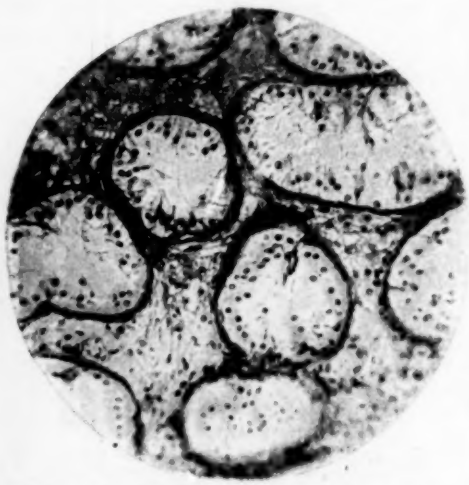
Of recent years a considerable amount of attention has been paid to the want of development of the imperfectly descended testis, chiefly from the fact that there has been much difference of opinion as to what is the correct method of dealing with the organ when it is met with in the course of a radical operation upon an associated hernia. From a review of a large number of records, both published and unpublished, as well as from the examination of a considerable series of sections of imperfectly descended testes, as to the exact condition of the seminal tubules, of the presence or not of spermatozoa or of their partial formation, it would seem that it may be accepted as a working hypothesis that the testis so arrested is one that has very definite divergences from the structure of a normally placed and fully-developed organ. A fully-developed normal adult testis may be described as having well-marked seminal tubules showing spermatozoa in all stages of their formation. The walls of the tubules are composed of several layers of flattened cells, well formed and regularly arranged. The tubules are occupied by epithelial elements, grouped as irregular strata. They may be said to form three fairly distinct layers. The outermost, or lining, layer is made up of cubical or slightly flattened cells which lie immediately within the basement membrane of the wall. Some of these may here and there show some evidence of proliferation. The next layer consists of large rounded cells with clear protoplasm which are also somewhat irregularly placed. These are the cells which are chiefly concerned, it is probable, with the formation of spermatozoa. They may be termed the intermediate or proliferating cells. The innermost layer is one of granular ill-defined cells which appear so closely associated as to produce an almost uniform mass, staining badly and showing no tendency whatever to division. Their nuclei are small, and towards the lumen of the tubule they become very faintly outlined. This mass of cells may be looked upon as the nutritive layer. Embedded in the inner part of this stratum are the heads of the spermatozoa, and it is probable that these become freed by the liquefaction of the protoplasmic layer in which their heads are concealed. When, on the other hand, the structure

of the tubules of a testis that has not reached its proper level is examined there will be found a very different histological picture in the majority of the instances. The tubules are fewer in number, smaller, and more widely separated from one another by interstitial tissue, consisting of loose connective tissue which is rich in blood-vessels in spite of the otherwise ill-development of the gland. Scattered throughout this will be seen nuclei belonging almost certainly to interstitial stroma cells. (Figs. 3 and 4.) In some sections these appear to have undergone

FIG. 3.

Section of testis removed from the inguinal canal, showing few poorly developed tubules and many interstitial cells in the intertubular connective tissue. (× 50.)

FIG. 4.



Section of a testis removed from the inguinal canal of an adult, showing fairly well-developed but inactive tubules and numerous interstitial cells. (× 150.)

considerable increase both in number and size. Such interstitial cells are present in the connective tissues of the normal adult organ, but in comparatively few numbers. What their significance and function may be is still problematical. Possibly they are associated with an internal secretion of the gland, a secretion that may be needful for the full bodily development or sexual perfection of the man. The fact that they are found in apparently larger numbers in particular instances of imperfectly descended testes is a matter of great interest both from a physiological and a pathological point of view. The connective tissue, moreover, here and there contains some large lymph spaces. The basement membrane of the tubules derived from the connective tissue as well as the membrana propria are well-developed. The lumen of the tubules is most commonly found occupied by a mass of granular débris containing a large number of nuclei of various shapes and sizes, these being probably separated from the cells lining the tubule. As a rule, neither spermatoblasts nor spermatozoa can be demonstrated in the tubules of imperfectly descended testes. In some instances, however, it is possible to show that there has been actual spermatogenesis, and this most usually in those testes which have passed into the perineum.

LECTURE II.

Delivered on Feb. 26th.

PHYSIOLOGY.

MR. PRESIDENT AND GENTLEMEN,—Nearly all authorities are agreed that the testis which has not reached its normal position in the scrotum is generally functionless—at least, in so far as the formation of spermatozoa is concerned. While, therefore, there is no doubt that this belief is true in the vast majority of instances, yet there are persons whose testes, although arrested or ectopic, are nevertheless capable of producing well-formed and active spermatozoa. This fact has been indubitably proved by the microscopical examination of the semen which has been ejaculated and of the lining epithelium of the tubules of the glands themselves, in addition to the evidence of the procreation of children.

Double arrest or ectopia associated with want of development of the testes as a rule implies sterility on the part of the man, although he may be perfectly virile. There is also some real doubt as to whether a testis arrested at birth, but brought down in early life into the scrotum, ever so develops as to become the seat of spermatogenesis. A few cases are on record in which this has been stated to have occurred, but the facts given do not support the assertion strongly. Moreover, testes which at birth are lying in the inguinal canal or even within the abdomen have been known to descend gradually or perhaps somewhat hastily either before or after the period of puberty. It may therefore be that some of the glands that have been brought down, placed, and grown in the scrotum were those which, although well-developed for their age, had merely had their passage delayed and would eventually have reached their proper habitat by natural means and have become fully capable of function. But while the chief fault of the imperfectly descended testis may be its inability to produce active spermatozoa there are other conditions so closely associated with arrest or displacement of the organ that they require some description. There would appear to be some relationship between the general growth and development of the body in the male and a proper descent of the testis, or, to put the same statement in slightly different language, many instances of want of general growth of the body are accompanied in the male by an arrest of the testes. The subject may perhaps be amplified by the following propositions. 1. Arrest of one testis, with complete descent and development of the opposite gland, is only very rarely associated with any deficiency in bodily growth. 2. Arrest of both testes, when they are ill-developed, is usually accompanied by some more or less pronounced want of development of the body as a whole. 3. Arrest of both testes, but good development of both glands, is but rarely followed by, or connected with, imperfect growth of the body. 4. Arrest of both testes with want of development of only one gland is not necessarily accompanied by a diminution of bodily growth. With one testis arrested and ill-developed there is therefore, except in a few instances, no lack of development of the individual, whether bodily, mentally, or sexually. It would seem from this fact that either the fully-descended and developed testis is sufficient to promote bodily growth, that it has in reality at present some obscure qualities or functions that render it capable of playing an important rôle in the organism in spite of its fellow being functionless, or that, on the other hand, the arrested gland does of itself supply its quota towards the full development of the individual. If the former view is the correct one it might be urged that the normal testis, in order to supply the full amount of what is

needful for growth of the body, ought to show signs of hypertrophy. Yet a size of the normally placed organ greater than it should be in a person of corresponding age and development is but rarely seen in the human subject. In animals, on the other hand, there seems to be more evidence of such a compensatory hypertrophy. This is particularly the case in the stallion. Sometimes in this animal the descended organ may reach twice the bulk of a normal testis in a horse of the same age and size. Because, therefore, in the human subject true hypertrophy of the fully-descended testis when its fellow is arrested is a comparatively rare condition it still remains to determine whether the completely descended and fully-developed organ, although not larger than normal, is capable by itself of supplying the needed stimulus for adequate bodily growth, or whether the arrested testis that is also present has to subscribe its share towards the same result.

The matter becomes one of serious import when the question of the removal in early life of the imperfectly descended organ is under consideration. Experience has shown, and that fairly conclusively, that a single well-developed testis is sufficient in itself to provide all that is needed for the proper growth of the individual, and that no serious inconvenience to the patient, so far as complete bodily growth is concerned, is likely to occur should it become necessary to remove its fellow, and this in spite of the fact that the organ which is left does not exhibit any tendency to increase in size. In furtherance of the argument that an ill-developed and imperfectly descended testis does not subscribe much, if any, of the stimulus for full bodily development of the man is the fact that in instances of double arrest and non-development of the testes there is as a rule some failure in the growth of the individual in all directions. It is to be understood, however, that this want of growth may be due to some prior cause which is acting as a factor in also producing the imperfect descent. Such a condition is commonly seen in cases of cretinism and in those rare instances of the condition which it is proposed to term "atcleiosis." When both testes are arrested, but are not imperfectly developed, there should be no want of bodily or other development.

In endeavouring to determine the causal relationship between imperfect development of the arrested testes and the failure of general bodily growth, or of efficiency in certain physiological functions, some light may possibly be thrown by a careful study of the microscopical appearances of sections of the arrested glands. As was stated in the former lecture, it is an interesting fact that the testis of the boy before puberty is entirely devoid, or nearly so, of a type of cell lying in the spaces between the seminiferous tubules. These interstitial cells are, however, beginning to be noticeable about the period of increased sexual development and may become very abundant. It has further been shown that although in instances of double arrest of the testes both organs may be wholly incapable of producing spermatozoa, yet the owner of them may acquire full virile power, but will remain for ever without the ability to procreate. The arrested glands not infrequently have large numbers of these well-defined interstitial cells, and it is possible that they have an important function at the onset of puberty. They may have the duty of producing what is now so generally termed the "internal secretion" of the organ. This substance, whatever it may be, probably plays an important rôle in the development of the body, for without its presence much of the normal growth may be lost or the usual changes that occur at puberty may be profoundly modified. That there is some relationship between internal secretion of glands and the growth and division of cell elements gains some support from the fact that in a considerable proportion of instances where double oöphorectomy has been performed for recurrent or inoperable carcinoma of the mamma, and particularly in women before the climacteric, there has been a very noticeable change in the constitution of the malignant deposits. In some of these cases the neoplasm has become markedly altered within a few days of the removal of the ovaries, and in others, well-authenticated, there has been a complete temporary, if not a permanent, disappearance of the carcinomatous masses. Then, again, there is the well-known circumstance that an early removal of the ovaries leads to a diminution in the size of the uterus—uterine atrophy; and that the ablation of both the testes causes shrinking of both lobes of the prostate—prostatic atrophy. Further, it is an interesting fact that each of these mutilations is liable to be followed soon after they are performed by severe "nerve-storms," in which the patient may for the time being become irresponsible for his or her actions. On the other hand, supposing in the male that the vasa deferentia alone have been severed, such nervous phenomena but rarely succeed, and in such a condition, although eventually the testis does atrophy on the side of the vasectomy, yet it remains present and probably still capable of producing its internal secretion. Further, a removal of both the testes or of both the ovaries tends to a considerable alteration in the amount of adipose tissue in the body, the subjects as a rule becoming much disposed to the accumulation of fat in the subcutaneous tissues. There is much that is highly suggestive in the fact of these internal secretions, but there is need of a large amount of clinical, physiological, and pathological study to elucidate their full significance.

Returning again to the theory that in some instances the association of imperfect descent of the testes with a failure in perfect growth may be due in reality to some common cause, cretinism is perhaps the best example of such. In male cretins it is extremely rare to find either of the testes within the scrotum, and it is equally rare to find them at all developed, and although I have not as yet had the opportunity of examining the testis of a cretin by the microscope I should expect that the interstitial cells are altogether wanting in their development. Thus it may be stated shortly that whereas there are found in the testis two distinct types of cells, the first needed for the formation of spermatozoa, and the other probably, though it cannot at present be affirmed positively, required for the production of an internal secretion, and failure in the development of both these types of cells will as a rule lead to failure in the proper bodily growth of the individual, but development of the interstitial cells, even though there are no sperm elements, will allow the possessor to become virile while remaining sterile.

Many cases are on record in which imperfect descent of the testis has been accompanied by actual bodily deformities. Among the more interesting and important of these are:—1. The occurrence of incomplete transition with the absence of one kidney (Fig. 5). In one such case a sarcoma of the arrested testis actually produced a fatal result by extension

FIG. 5.

A single kidney lying in the pelvis, associated with arrest of development and transit of the right testis. (Godard.)

to the sole renal organ present. 2. The co-existence of talipes, of spina bifida, or of cleft-palate is by no means rare. 3. Non-descent of the cæcum into the right iliac fossa is occasionally discovered. The connexion of the passage of the cæcum into the region which it normally occupies and the migration of the testis into the scrotum have much in common. In those instances where the cæcum has failed to reach the iliac fossa the right testis, and sometimes also the left, has not usually passed beyond the confines of the abdomen. As has been pointed out, the gubernaculum testis has anterior attachments to the cæcum, &c., and these share probably in bringing about some of the movement of the

bowel. In those instances in which the cæcum has remained higher than it is naturally there has been an arrest in its so-called descent, while in those cases in which there exists a congenital cæcocele there has probably been an excess of the normal traction. 4. Ectopia vesicæ is almost always, when it occurs in the male, associated with imperfect descent of the testes, which, as a rule, lie in pouches on either side of the extroverted bladder. Not infrequently there is a hernial protrusion at the same time into the processus vaginalis of the arrested glands. 5. In one instance at least there has been a double penis associated with imperfect descent of the testes. There does not appear to be any evidence that arrest of the testes is accompanied by a failure in the development of the tonsils, just as there is none to justify the belief that has been held by some that excision of the tonsils is liable to be followed by atrophy of the testes. There would also, and naturally, appear to be a relationship between the descent of the testes and the sexual development of the individual. The influence of the descent and development of the testis upon the formation and growth of the accessory genital structures in the male is marked. The chief organs to be affected are the prostate, the vesiculæ seminales, Cowper's glands, and the penis. With regard to the prostate, when both testes have failed to arrive in the scrotum, provided that they also show a want of proper development, this associated structure is usually found to be small—that is to say, it does not increase in size at the onset of puberty, remaining always in its puerile condition, its fibrous tissue appears to be added to, while its glandular tissue in the form of the tubules is never fully formed, being represented merely by branching fissures doing duty for ducts and lined by a single layer of flattened cells. The intervening or inter-tubular connective tissue is hypertrophied and there are but few non-striated muscular fibres present. Further, as life advances there seems to be but little tendency for that enlargement which is so common in the organ when there has been an active sexual life. It is also true that only one-half of the prostate will be properly developed when only one testis has reached the scrotum, the other having been arrested and remained in a condition of ill-development. The vesiculæ seminales and the vasa deferentia, either unilaterally or bilaterally, according to whether one or both of the testes have failed to gain their position in the scrotum, show evidence of want of development and appear almost as if they were absent in some

FIG. 6.

Absence of left testis with imperfect development of vesicle. (Godard.)

instances (Fig. 6). The vesicle on the side in which the testis has not descended is small, very saccular, and unfilled by semen. Cowper's glands habitually fail to become of normal size where the testes have been arrested; in fact, in some instances neither they nor their ducts can be found. The penis with double arrest is as a rule small, though there are exceptions. It is also flaccid and appears frequently as if shrunken. Erection may be faulty and ejaculation nearly, if not quite, absent. Not uncommonly associated with these conditions there is a want of the proper attainment of manly characteristics. The hair about the symphysis pubis shows a feminine arrangement, the pelvis tends to assume the shape seen most often in the female, and the larynx and voice remain as in the boy. Occasionally the mammary glands show distinct hypertrophy. In a few instances sexual perversion has been present.

There is yet another relationship which is one of considerable interest. It is the association of non-descent of the testes with a condition of hermaphroditism. Hermaphroditism may be classified as true and false. In both the varieties, but particularly in the more common form of spurious, it is very usual to meet with either complete or incomplete arrest of the testicular gland. In true hermaphroditism there are present one or more testes and ovaries or glands which are a combination of both organs. Thus it is possible to have at least three forms of this variety: (1) that in which there is one ovary or testis on one side with an ovary and testis on the other—that is, unilateral; (2) that in which there is an ovary and a testis on both sides—that is, bilateral; and (3) that in which there is an ovary on one side and a testis on the other—that is, lateral. In all such cases it is a matter of some interest as to where the testicular gland is to be found. In nearly half the organ will be found either completely within the abdominal cavity or lying in the inguinal canal. There would seem, therefore, to be some relationship between the causation of the hermaphroditism and the non-passage of the male gland into the scrotum. In spurious hermaphroditism the imperfect descent of the testis is present in even a greater proportion of the cases. In this form there is an external appearance of the organs of generation of one sex, together with internal generative apparatus appertaining to the opposite sex. The relationship between the imperfect descent of the sexual gland and the abnormal condition is perhaps more readily seen and understood in this type than in the former one. Most of the instances are those in which the external parts of generation take the form more or less of the female, while the internal are in reality those of the male.

In addition to this variety there are those forms of complex hermaphroditism in which there is a mixture of the organs of both sexes externally and internally, as, for instance, that class of case where, although there are testes within the abdomen, there is also a uterus and associated parts but no ovaries. The question as to the position of the sexual glands in instances of spurious hermaphroditism should be studied, for it may throw some light on the occurrence of such conditions. In many of the recorded cases there have been found swellings in the inguinal canals. In some these have been the sexual glands, testes, arrested at this spot. In others the organs have been discovered in the bifid scrotum or in the parts which correspond to the labia majora. Particular attention is directed to the swellings in the inguinal region. Where the external organs are those having the appearance of the female, more or less developed, a tender, oval, and firm body occurring in one or both of the inguinal canals is very suggestive of a hernia of the ovary. There are, in fact, several instances on record in which the structure has been removed under the impression that it was such a gland, and it was only after microscopic examination that its true testicular nature has been discovered. It is doubtful, indeed, whether the opposite condition—namely, that in which the external organs are such as would lead to the belief that the individual was a male together with ovaries in the inguinal canals—is at all common, though not unknown. Therefore, it may be stated that supposing there are bodies lying in the canals, associated with some doubt as to the sex so far as the external organs are concerned, it is the wisest plan to look upon the person as a male rather than as a female.

The question, then, that naturally arises is, Has this imperfect descent of the testicular gland any bearing upon the abnormal conditions of the external generative organs? It is a fact that in certain other cases where the testes have failed to reach the scrotum the penis has remained so small as to simulate an enlarged clitoris, and the scrotum has been very imperfectly developed, almost rudimentary, and with but little raphe present, and a degree more or less pronounced of hypospadias co-existent. A little further development of the same tendency to an abnormal condition of the parts and there is produced all the female characteristics of transverse hermaphroditism. Such a state may, therefore, be the outcome of some influence dependent upon the imperfect descent of the testes, or the failure to migrate on their part

and the abnormal features of the external genitals may both be the result of some prior cause. A lack of some form of stimulus to proper development may have affected the whole of the generative apparatus, bringing about the arrest in the descent of the testes and the want of full differentiation of the external organs as male.)

PATHOLOGY.

Inflammation of the imperfectly descended testis.—The testicle which has not reached the lowest limit of the scrotum, or which has passed into abnormal positions, is liable to inflammation arising from the same causes as the inflammatory conditions of the normally descended organ. But in addition the site of the testis when arrested or ectopic in itself renders it prone to become inflamed from reasons other than those operating upon the normally placed gland. Inflammation of the imperfectly descended testis may be due, therefore, to (1) traumatism; to (2) extension of inflammation from the urethra; to (3) secondary inflammation in certain cases of parotitis (in all of these the inflammation is of an acute nature); to (4) deposit of the tubercle bacillus; or to (5) syphilitic infection (in both of these it is usually of a chronic nature).

Traumatic inflammation.—Inflammation due to traumatism is peculiarly the misfortune of the testis which is abnormally situated. A testis hanging from a normal cord in the lowest part of the scrotum, although apparently exposed to many and grave dangers, is in reality comparatively seldom actually damaged, for it is well able to get out of harm's way. It is so mobile that it slips aside almost at the approach of violence. Not so the testis which hangs high in the scrotum or just below the superficial ring, often from a short, altogether unyielding, cord, or the gland which is retained in the inguinal canal. When it has only passed out of the canal but a short way the testis is so placed as to be constantly open to receive blows and various forms of harmful pressure, which it is unable to avoid in the manner that its normally placed fellow can do. Many a time the delicate and sensitive testicular tissue is pressed backwards against the totally unyielding body of the os pubis, only to result in a sharp attack of acute orchitis. It is here also, outside the inguinal canal, but not in the scrotum that the imperfectly descended testis is certain to be injured by the pressure of the pad of a truss that has been improperly applied. When an inguinal hernia accompanies a testis found just below the superficial abdominal ring, the pad of the truss which is to control it should be placed over the site of the inguinal canal and altogether above the level of the body of the os pubis. Here it will rest only upon soft tissues and the testis will be in no way exposed to injurious pressure. In like manner the adjustment of a truss to a bubonocele with the testis in the inguinal canal will cause no harm, as a rule, if the testis is allowed to slip away to one or other side of the pad. But it may be markedly irritated in this position if a truss with a so-called horse-shoe or forked pad is applied. Fortunately, the testis has the good sense not to remain within the trap that is so placed to retain it and thus escapes injury; but should it happen to be squeezed in the restricted area prepared for it an attack of inflammation is almost certain to result. Again, with the testis in the canal damage may accrue if a truss with too strong a spring is applied, or from the pressure of an instrument the spring of which has a too-marked antero-posterior curve, as so often seen in badly constructed trusses. Inguinal inclusion is also a cause of inflammation owing to the fact that strong muscular efforts on the part of the patient will produce sufficient pressure upon the organ to set up actual injury. In many other cases the application of a trust is in reality a prophylactic measure, for it will occasion the retention of the gland within the abdomen and thus keep it to a great extent out of danger.

There is another manner in which a testis in the inguinal canal may be damaged. Supposing that the gland is at the lower part of the canal, and hanging from a fairly lax cord, one that allows of a certain amount of play in an up-and-down direction, a sudden muscular effort, such as the lifting of a heavy weight, may lead to the extrusion of the organ through the superficial abdominal ring, the pillars of which during the passage become separated from one another and approximate after the descent. It will thus come about that undue pressure may be exerted upon the spermatic cord, as well as possibly some actual injury to the testis in its transition. Very severe pain, sometimes enough to cause fainting, is occasioned and acute inflammation rapidly supervenes. This accident, although in some points resembling that of torsion of the spermatic cord, is distinct from that lesion and may be several times repeated, provided that the testis is withdrawn again within the limits of the canal.

Torsion of the cord, which is itself not infrequently the outcome of traumatism, is another cause of inflammation, often passing on to gangrene. When the testis has passed into the perineum it is peculiarly liable to become squeezed and bruised from pressure in sitting, horse exercise, or in bicycle-riding. The testis in Scarpa's triangle, again, is exposed to injury, but not to the same extent as the organ which lies in the perineum. The testis which has not left the protection afforded by the abdominal wall and still lies within that cavity is not more threatened with damage than is the normally-placed ovary.

Inflammation of the imperfectly descended testis consequent upon traumatism may occur at all ages but is most common in young adults. As in the normally situated gland, so inflammation of the abnormally placed organ is frequently accompanied by an acute hydrocele of the enveloping serous membrane, though on account of the usual communication of the peritoneal pouch with the general cavity of the abdomen there may be but little accumulation of fluid in the sac, for much of it will find its way upwards. In those instances where the processus vaginalis has proceeded beyond the position of the testis the fluid may fill the lower part of the sac as well, thus masking to a certain degree the absence of the testis from the scrotum and leading to some confusion in the diagnosis of the actual condition that is present. The fluid, if evacuated, is often found to be turbid or even flaky from the admixture of inflammatory products with the serous liquid.

The prognosis of traumatic inflammation of the imperfectly descended testis is a grave one so far as the organ itself is concerned. Such an inflammation is nearly always the forerunner of complete atrophy of the gland, so that should it have possessed any vestige of function previously to the attack this will be lost entirely subsequently. If the disorganisation of the testicular tissue is not absolute after the primary inflammation a second attack is almost sure to occur and lead to total destruction or the conversion of the gland into a fibrous mass. (Fig. 7.) These repeated attacks of inflammation will

FIG. 7.

Section of a testis from the inguinal canal, which after repeated attacks of inflammation had undergone fibroid degeneration.

render the organ a source of great annoyance to the sufferer and may be even of danger to him. It is rare for suppuration to take place in the ordinary traumatic inflammation, just as it is also uncommon when the normally placed testis is similarly affected. The hydrocele that is often produced during the attack of orchitis may persist after all the signs and symptoms of the inflammation have passed away. A testis which has once been the site of inflammation may

remain much more sensitive than it was before the affection of the gland came on, and in certain instances a form of neuralgia may distress the patient for a long period of time unless the organ is removed. Sometimes the retained testis affected with fibrosis may be considerably enlarged so as to simulate a new growth. In these cases there have, as a rule, been many attacks of inflammation and the fibrous stroma and covering of the gland are all much increased in thickness. Adhesions of the testis to the inner surface of the tunica vaginalis may result which will usually lead to a greater fixation of the organ than heretofore.

Although it is undoubted that atrophy may, and often does, follow upon inflammation of the arrested testis, yet it is open to considerable uncertainty as to whether malignant disease is ever attributable to the same lesion. Irritation and inflammation of the imperfectly descended gland may possibly in some rare cases initiate such changes in the testicular tissues, so far as its embryonic constituents are concerned, as to bring about the incidence of a new growth. In a few instances where the testis has been found in the inguinal canal and has been the seat of inflammation peritonitis has been set up within the abdomen, owing to the fact of the communication between the processus vaginalis and the general cavity of the peritoneum.

Inflammation due to the extension of disease from the urethra.—Occasionally the passage of a catheter along the urethra has caused a septic urethritis which has later extended along the vas deferens of an arrested testis and produced an epididymo-orchitis. There are also some records of cases where a prostatitis other than one dependent upon gonorrhœa has been followed by inflammation in the retained gland. But an affection of the epididymis and afterwards of the testicle itself from the passage of the gonococcus along the urethra to the prostate, through the common ejaculatory duct, past the vesicle, up the vas and down to the globus minor of the epididymis, is the most usual form of disease of the arrested testis caused by an extension of inflammation from the urethra. Here, again, suppuration is rare, for if the urethral lesion is a double infection of the gonococcus, accompanied by the staphylococcus pyogenes, the latter is but rarely so resistant as to be able to travel alive as far as the commencement of the vas deferens.

Gonorrhœal inflammation of the arrested organ is apt to be more severe than that occurring in a testis which is in the scrotum. Where the testis remains within the abdomen peritonitis may supervene owing to the extension of the gonorrhœal inflammation to the adjacent serous membrane. In a few cases in which the body of the testis has been fixed in the inguinal canal and the epididymis has passed into the scrotum together with the vas, a gonorrhœal infection has occasioned a swelling and tenderness in the latter region, and perhaps no discomfort above Poupart's ligament. A fact which is worthy of attention is that it is by no means infrequent to find a specific epididymitis of the fully descended organ while its arrested fellow escapes sharing in the inflammation. As in the traumatic inflammation of the imperfectly descended testis atrophy may occur, so it may follow a gonorrhœal infection of the same, and is probably more generally the termination of the lesion than it is when the organ is normally placed.

An orchitis of an arrested testis may occur during an attack of acute parotitis. In such instances, as is the case in the similar affection of the fully descended organ, the inflammation is prone to be very severe and for the time being alarming. Atrophy subsequently is, moreover, very common as a sequela.

A tuberculous infection of the tissues of a testis which has not reached the scrotum is a very rare condition, and this may possibly be accounted for by the fact that the undescended organ is often so poorly developed that its blood-vessels are neither so abundant nor so large as are those of the normal gland and therefore tubercle bacilli are not so readily brought to the part. Further, should there be primary tuberculous deposits in other portions of the genito-urinary tract, it is not so likely that they should pass to the testis along the vas if this structure has a very narrow lumen. A secondary infection of the peritoneum, particularly if the testis is retained within the abdominal cavity, is likely to be set up.

Syphilitic infection of the arrested testis, whether secondary or tertiary, is also extremely rare, very much rarer than it is in the normally placed organ, and its rarity is all the more remarkable seeing how commonly traumatism, often the precursor of a syphilitic inflammation, affects the retained gland.

Torsion of the cord of an imperfectly descended testis.—Torsion of the spermatic cord may occur in connexion with the fully descended or imperfectly descended testis. Nearly 50 per cent., however, of the recorded cases are those in which the testis has been arrested, and in the other half there is usually some abnormality of the testis or its annexa. Almost all viscera within the abdomen which possess pedicles are at times the seat of axial rotation, and many tumours which form within the abdomen are also liable to have their pedicles twisted. There are a number of predisposing causes which possibly act in bringing about torsion. Imperfect descent of the testis, an abnormally long mesorchium, a practical absence of a mesorchium, action of the gubernaculum testis, a congenital twist of the cord, a roomy tunica vaginalis, and a flattened condition of the imperfectly descended organ, are all factors predisposing to torsion. There are two important peculiarities that may be present in the testis which has not reached its proper habitat. These are an abnormally long mesorchium, and the existence of two cords supporting the testis, the one consisting of the vessels, the other of the vas deferens. Frequently the two conditions are found at one and the same time. The reason of this anatomical arrangement is not far to seek. The body of the testis has its own blood-supply, and these vessels lie in the plica vascularis, which will then form one cord or part of the mesorchium, while the epididymis and the vas have an altogether separate origin, and therefore a different blood-supply, and they consequently tend in some cases to form a distinct cord, which may become itself the site of torsion. It thus comes about that the imperfectly descended testis is less firmly attached than is the normally situated one, and there is a liability, if any exciting cause occur, for axial rotation to take place. Probably an absence of a mesorchium is a condition which is seldom, if ever, present. It is extremely doubtful whether the gubernaculum can ever exercise any influence in bringing about torsion. It has been suggested that as the outcome of intra-uterine peritonitis a congenital twist may be given to the testis in its descent, and that later this may be aggravated by an exciting cause of torsion being added to it. A roomy tunica vaginalis would certainly give more space for the occurrence of a twist. To sum up, it is probable that partial descent with a freely moveable testis is the chief predisposing cause of torsion of the spermatic cord.

As exciting causes may be mentioned a muscular effort, a mechanical twist, the action of the cremaster, the application of a truss, attempts at the reduction of a hernia by taxis, and possibly the enlargement of the organ at the approach of puberty. Others have thought that a primary thrombosis of the vessels of the pampiniform plexus exists, and that torsion is merely secondary to this. A sudden muscular effort with the testis lying in the inguinal canal is the history of many cases of torsion. As soon as the vessels of the cord undergo a rotation around their longitudinal axis the circulation of blood within them is seriously interfered with. The onset of torsion more markedly affects the thinner-walled veins than the artery, with the result that while the blood is pumped in through the latter it cannot properly return through the former. The consequence of this is a rapid and extreme turgescence of the veins of the pampiniform plexus and great congestion of the whole of the parts from which they derive their blood. It is this over-full state of the vessels that leads to the agonising pain from which the patient suffers. Soon the testis becomes greatly increased in size, often to twice, or even thrice, its original magnitude. Occasionally it is only the epididymis that is enlarged, the body of the testis remaining almost its usual size. This will be the result of a twist only of that cord which carries the vessels of the epididymis and vas.

If the congested testis is exposed by an incision it will be found to be bluish-black in colour, not unlike a ripe purple plum, and somewhat like very deeply congested gut. (Fig. 8.) This discolourisation may in some instances be visible even through the skin. A certain amount of fluid, usually blood-stained, may transude the distended vessels into the cavity of the tunica vaginalis. Sometimes the vessels actually give way under the pressure to which they are subjected, and pure blood is thereby extravasated. It is interesting to note that there may be a comparatively early invasion of the congested tissues by bacteria, both cocci and bacilli, but possibly only in the cases in which an accompanying hernia

has allowed intestine to lie in juxtaposition. These micro-organisms may lead to suppuration in the sloughing organ or to the formation of pus in the wound after the removal of the gland.

FIG. 8.

Strangulation of a testis due to torsion of its cord. The dark patches show extravasation of blood into its substance. (Guy's Hospital Museum, No. 2078.)

For the integrity of the gland torsion necessitates a very grave prognosis. Even one attack of rotation, and that one only permitted to last quite a short while, say but a few hours, has been demonstrated to lead to atrophy of the testis. Repeated attacks unquestionably tend to eventual disorganisation. Torsion produces atrophy. Torsion with infection by bacteria leads to true moist gangrene.

The Lettsomian Lectures

ON

CERTAIN DISEASES OF THE BLOOD-VESSELS.

Delivered before the Medical Society of London

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LECTURE I.[1]

Delivered on Feb. 17th.

VARICOSE VEINS: THEIR NATURE AND IMPORTANCE, AND THE VALUE OF TRENDELENBURG'S OPERATION.

MR. PRESIDENT AND GENTLEMEN,—My first and most agreeable duty is to thank the council of this society for the honour which they have conferred upon me in appointing me to deliver the Lettsomian lectures. Would that I could make a worthier response. I can only ask that the kindness which prompted the invitation may be extended to me now as I offer a contribution which I know is not worthy either of this society or of my predecessors in this office.

I believe that it is generally desired that the subjects of the Lettsomian lectures shall be as practical as possible—that they shall deal with affections which perhaps often come under the notice of the Fellows of the society, and in that belief I propose to devote this lecture to a consideration of certain points in connexion with varicose veins.

[1] Lectures II. and III. will be delivered on March 3rd and 17th respectively.

I will not attempt to give you an exhaustive account of this affection or an analysis of the views that have been held in regard to the causes, the consequences, or the best treatment of varix. I will limit myself to a brief discussion of those features of the disease which have chiefly impressed themselves upon me, and will then submit to you the results of a somewhat extended trial of the particular method of treatment which was first employed by Trendelenburg in 1891 and which bears his name.

THE NATURE OF VARICOSE VEINS.

Two views of the nature of varicose veins are commonly held to-day. One regards them as the result of the yielding of the veins to an increased intravenous pressure due to an obstruction to the flow of blood up to and through the heart. In support of this much can be said. It may be pointed out that varix is met with most often in the veins of the lower limbs and left spermatic cord and in those veins which are least well supported externally, the subcutaneous veins—that many of the subjects of them are following occupations which necessitate long standing or walking, or are suffering, or have suffered, from some obvious cause of venous pressure, such as the enlarged uterus of pregnancy. The relief that is sometimes afforded by external support to the veins is another fact that may be adduced in support of this theory. According to the other view varicose veins are to be regarded rather as venous overgrowths, a superabundant development of venous tissue—venous angeioma. In trying to decide between these two views the following facts and considerations have led me to reject the obstruction theory.

The age at which varices are first noticed.—In the great majority of cases varicose veins make their appearance before the growth of the individual is complete. They are one of the diseases of immature development. Out of 50 consecutive cases of varicose veins of the lower limbs collected for another purpose, but in which this point was noted, I found that 41 patients observed their varices before the age of 25 years and only nine after that age. When we remember how unobservant patients, especially hospital patients, are of the date of onset of painless affections and how constantly we have to discount their statements on this point, we may be sure that these figures represent less than the truth. Among the 41 cases, the age at which the varices were first noticed were given as follows:—

1 at	8 years.	2 at	18 years.
1 ,,	11 ,,	3 ,,	19 ,,
1 ,,	13 ,,	4 ,,	20 ,,
1 ,,	14 ,,	1 ,,	21 ,,
2 ,,	15 ,,	5 ,,	22 ,,
7 ,,	16 ,,	2 ,,	23 ,,
3 ,,	17 ,,	6 ,,	24 ,,

One patient said that she had had the enlarged veins "since she was a girl," and another said that "the veins had been enlarged as long as she could remember."

It is quite certain that puberty and adolescence are not the period of life in which venous obstruction predominates, nor are they the time of life at which strain is liable to tell upon the integrity of the vessel walls.

The general condition of the tissues of the subjects of varix.—I am sure that we must all have been struck with the general condition of good, even robust, health of the large majority of patients when varix is first discovered. How often it happens that the disease is only discovered when a typically healthy youth presents himself for acceptance in some branch of His Majesty's service.

The conspicuous absence in cases of varix of the usual symptoms and consequences of venous obstruction.—This is another noteworthy point. We have many opportunities of seeing the effects of venous obstruction—œdema, lividity, and impairment of function. In the great majority of cases of varix these symptoms are all absent. I have seen the most extreme degree of varicose veins which had persisted for many years without any, even the slightest, alteration of the skin or subcutaneous tissue—neither œdema, induration, nor any loss of function—and such must be the experience of you all. But when we come to study other cases in which there is undoubted venous obstruction, how grave and striking these symptoms always are. Even in such a simple case as a slightly ill-applied bandage—just a very little impeding the venous return—how immediate is the discomfort, how quickly the whole member below becomes obviously congested and how rapidly œdema supervenes. And in the graver cases of valvular derangement of the

heart, or the growth of tumours, or plugging of a main vein where the obstruction, even if it is slow and gradual in onset, is yet persistent, we are never at a loss to notice the grave effects upon the tissues when they are imperfectly drained of their venous blood.

The varicose veins that we know and are now thinking of are enlarged cutaneous and subcutaneous veins—parts of a very abundant, even superabundant, system of veins—and we are all aware of the fact that many of these veins can be removed or plugged with clot without any injurious effect upon the circulation of the limb, so many and free are the alternative channels which nature has provided for the return of the blood to the heart. But this fact has no bearing upon the point which which we are now discussing, for the theory of obstruction always supposes that the obstacle to the free return of blood is one that acts upon the deep main veins and through them upon all the radicles communicating with them. And I submit to you that in uncomplicated cases of varicose veins there is, in the very great majority of cases, no evidence of general venous obstruction in the affected part at the onset of the disease—evidence which is not obscure or difficult to recognise and appreciate but which stares us in the face in all cases of undoubted obstruction in deep veins. It is an error to accept the enlargement of superficial veins as evidence of obstruction in the main channels into which they open. The evidence of this obstruction is to be sought in general venous engorgement of the part, followed by œdema and its consequences.

The result of excision of varicose veins and also of ligature of the main superficial vein into which they empty their contents.—If the cause of a given varix is some deep obstruction it is clear that to excise the varix is the most irrational procedure and could in no case be fraught with good. Or to cause a further obstruction to the venous return by a ligature of the main superficial vein through which the varix is emptying its blood must, of course, exaggerate the evil and cannot possibly mend matters. And yet there is no clinical fact better attested than the success of both of these measures. I think that we have here a decisive refutation of the obstruction theory of varicose veins, and if anything could add to its force it would be the disastrous results that are obtained when an incautious surgeon operates upon veins which are enlarged as the result of obvious undoubted central obstruction—a femoral thrombosis, for instance.

The influence of pregnancy.—Women often tell us that they had not been troubled by enlarged veins until during or after pregnancy. It is, indeed, commonly held that pregnancy plays an important rôle in the etiology of varix. Before we can rightly judge of its importance, however, there are several other facts to be borne in mind. At the outset we must carefully distinguish between conditions causing varix and conditions leading to pain in varix. Over and over again observant women have told me that they had noticed their enlarged veins in early life before marriage, but that they had *never been troubled by them until they were pregnant.* If one is careful to press this distinction it soon becomes obvious that while pregnancy is often a cause of pain in varix it is not very often the cause of varix. It is also noteworthy that it is not uncommon for a woman to say that her veins were only noticed to be enlarged when she "got up after her confinement," or even later when she "weaned the baby." While admitting, of course, that the pregnant uterus may be, and often is, a cause of pressure upon the common iliac veins or vena cava and so acts as an impediment to the venous circulation in the lower limbs, it is to be remembered that, quite apart from any pressure-effects, pregnancy produces in some women quite remarkable vaso-motor disturbances, and it is an error to conclude that all venous engorgements must of necessity result from the mechanical pressure of the enlarged uterus. In this connexion it is important to notice that many women complain of pain in their varicose veins at the very commencement of pregnancy before the uterus has risen high enough to press upon either common iliac vein, and these women not infrequently tell us that those pains abate in the later months of pregnancy when the pressure upon the veins must be at its maximum. I believe, too, that it is a fact that large ovarian and uterine tumours are less often attended with troublesome varices of the lower limbs than in pregnancy—a fact (if it be a fact) which surely points to some other factor as well as pressure upon the main veins coming into play in the enlarged and painful varices of pregnancy.

The sex-incidence of varix.—But if we look at the influence of pregnancy from another point of view altogether we shall, I think, see still further reason to believe that its influence in causing varicose veins has been over-estimated. When we consider the frequency of pregnancy in the female sex and the great abdominal distension and pressure that it causes in the later months I think that we shall be bound to admit that there is no condition or even group of conditions in the male sex that can possibly equal the effects of pregnancy in embarrassing the venous circulation of the lower limbs. And therefore on the obstruction theory we should expect to find varices of the lower extremities much more common in women than in men. But what are the facts? Sir William Bennett's statistics show the incidence to be about equal in the two sexes. I have gone over my notes of all the cases that I have seen in private practice and to them I have added all the cases in my hospital practice for the last six years, excluding cases of varicocele—they number 245. Of these patients 153 were men and 92 were women, a proportion of rather more than three males to two females. At the hospital I have more female than male beds, and I am unaware of any reason why my experience of the frequency of this affection in the two sexes should not represent the fact. If so, I think that we must conclude from this survey of the sex-incidence of the disease that pregnancy cannot play an important part in causing varix. If I had included all my cases of varicocele during the same period the sex-incidence would, of course, have shown a much greater preponderance in men.

But if we reject this first theory what grounds are there for adopting the other—the view that varicose veins are venous overgrowths—venous angeioma? Before answering that question it may be well to ask another: Is there any evidence that a growth of veins—a highly-specialised structure—ever occurs in adolescent or adult life? We have all seen cases of the development of arterial angeioma or aneurysm by anastomosis, and that forms a fair analogy; and we are very familiar with venous angeioma as a congenital growth which if neglected may continue to grow after birth and assume even large proportions. We cannot fail, too, to be impressed with the apparent superabundance of veins in the normal condition. Nature appears to be very prodigal in the supply of veins, and nowhere more so than in the primary veins of the lower limbs and their tributaries. Large numbers of veins may be obliterated without any interference with the capillary outflow. These facts would prepare us to observe a growth of veins in adults, and I think cases like the following are conclusive evidence that such a growth does occur.

CASE 1.—In October, 1895, an agricultural labourer, 46 years of age, was admitted to hospital under my care suffering from extensive varices in the lower third of the left thigh and in the left leg. These caused him so much pain that he was unable to continue at his work even although he wore an elastic stocking or a rubber bandage. I excised about one and a half inches of the internal saphena vein above the highest varix and a little below the middle of the thigh. In a fortnight the man returned to his work and for two years he was able to work in perfect comfort, the varices having in the meantime shrunk and being always lax. At the end of two years he began to complain of the old pain and I found that the varices were fuller and tenser. On looking at the thigh I found that the saphena vein was varicose above the scar of my operation and close alongside the scar a large vein could be plainly seen and felt passing from the saphena vein above the ligature to the vein below and this accounted for the return of the man's pain, &c.

I have seen other similar cases where after I have cut out a piece of the saphena vein in the middle of the thigh, either a single large vein or a number of veins have developed in the scar and have formed a new and free communication between the divided and separated ends of the saphena vein. The other day, when examining some of my old hospital patients on whom I had performed Trendelenburg's operation—excision of the upper end of the internal saphena vein—I came upon such a case (No. 16 in the table of cases).

CASE 2.—The patient was a man, 41 years of age, upon whom I operated in July, 1900. He had then rather large varices in the left leg and an ulcer over the inner malleolus. He left the hospital with the operation wound and the ulcer soundly healed. There is now a large varix in his groin which communicates with the upper end of the lower part of the divided saphena vein, passes round the outer edge of

the scar, and seems to enter the stump of the saphena vein where it opens into the femoral vein.

Another case (No. 8 in the table of cases) occurred in the person of a member of our profession.

CASE 3.—The patient himself thus describes the case: "At the age of 19—in 1894—I had tortuous veins on the inner side and back of both calves and a prominent internal saphena vein in each thigh in which could be felt a thrill on coughing. At the left saphenous opening was a slight bulging of the vein. Operation in 1894 by Mr. X—excision of a portion of the internal saphena vein in the upper part of the thigh, but I think about an inch or more was left between the ligature and the saphenous opening. This relieved me and the aching pains I used to get went away. Then the veins began to get big again in the calf and in the site of the operation in the left thigh a large mass of veins began to grow which were bigger than I had had before anywhere. These Mr. X excised for me in 1896, at the same time excising most of the tortuous or prominent veins in the calf of each leg. For about three years I kept very free from any discomfort from my veins, but in the summer of 1899 I began to feel them and I had sudden twinges of pain in them when standing in the wards and theatre. They (the varices) had then recurred in the left calf, the right remaining well." This gentleman then consulted me and I found the scar in the upper part of the left thigh occupied by quite a close congeries of large veins which communicated freely with the two ends of the saphena vein. I operated in October, 1899, and removed these veins and tied off the upper end of the saphena vein as close as possible to the common femoral trunk. He adds in the letter which I have quoted from above, "I have been very comfortable since and have no pain in them now." In this case, then, new veins of considerable size were seen to develop twice over in a scar in the thigh, and each time these veins acted as a free channel of communication between the divided ends of the internal saphena trunk.

I think that such cases may be fairly quoted as demonstrating the occasional development in the adult of what may be classed as "venous angeioma." Admitting the possibility of the development of a venous angeioma in the adult, what evidence is there to support the view that varix is a form of venous angeioma?

1. In the first place I would point to the fact that we occasionally meet with cases in which we have a *combination of undoubted venous nævus and varix*, and other cases in which the condition might almost equally well be designated by either of these terms. Several years ago I showed to this society a young woman who presented a most remarkable appearance. The left half of her body from head to foot was the seat of a very extensive diffused angeioma—in great part it was a capillary nævus, part of it was rather of the character of a venous nævus, and yet other parts were indistinguishable from ordinary varix. This was a congenital malformation or error of development, but it suggested to me very powerfully the similarity of varix and venous angeioma. This month I had in the Middlesex Hospital a man with a large venous nævus of the scrotum which occupied the whole of the scrotal raphe and extended along the under surface of the sheath of the penis, and also back into the perineum. I excised this growth and in doing so exposed and removed in the subcutaneous scrotal tissues veins which I could not distinguish from ordinary varices. Further, this man had on the inner edge of his left buttock an area of subcutaneous fascia about two inches in diameter occupied by dilated veins or venous spaces, and on the lower part of the thigh and the leg of the same side were some quite unmistakeable varicose veins. Two or three weeks ago I saw a young woman on whom I had performed Trendelenburg's operation some time before. Her thigh presents a truly remarkable appearance. She is well nourished, with abundance of subcutaneous fat, and in this fat the varicose veins are so numerous that they give a blue tint to the whole limb, and I think that it is as reasonable to regard the condition as a very diffused nævus as it is to speak of it as a very extensive varix. Only this week I saw a patient, 50 years of age, who has what she calls a "wine-and-water mark" covering the upper two-thirds of the right leg and nearly the whole of the thigh, on the outer side extending up to the groin. The subcutaneous tissue is occupied by a close network of dilated veins which project on the surface when very large and give to the whole part a blue colour. The veins are indistinguishable from ordinary varices, but the condition is peculiar in having been present since birth. Many years ago I saw among my out-patients at the Westminster Hospital an old man of 80 years of age whose right leg from knee to ankle was closely covered by a congeries of large veins, many of them of the size of a woman's little finger, which were so numerous that nowhere could a shilling have been placed on the leg without resting on one of these veins. The old man told us that his leg had been like that for 60 years and had never given him any trouble; he came to the hospital for quite another affection. More common and, I think, more striking than these cases, are those others of varix involving the minute veins of the skin. We often see a kind of splash of this condition just above the knee, sometimes superficial to a dilated saphena vein. How exactly it resembles the mildest form of nævus of the skin, or the edge of a nævus undergoing spontaneous cure! Indeed, I think that I have seen every grade between the undoubted congenital venous angeioma and the most uncompromising acquired varicose vein, and this fact has certainly borne in upon me the essential oneness of the two conditions.

2. Notice again the *capricious irregular distribution of varices*. In one case it is the whole saphena vein from groin to instep that is enlarged, no one of its tributaries being involved. In another case it is merely a short section of this vein that is varicose. In a third case the saphena trunk and several of its main tributaries are dilated. In a fourth case the disease involves only some second- or third-rate tributary and leaves the main vein unaffected, or a large varix may be found lying over the normal vein. Large varices are not uncommonly seen in situations where no vein of any size is normally present—e.g., across the front of the patella. Lastly, in a few cases the enlargement appears to involve an enormous number of veins in the whole subcutaneous tissue of the leg or thigh almost uniformly, although the trunks may not be specially enlarged—and yet there is no sign of any impairment in the venous drainage of the tissues. This extreme irregularity and variation in the seat and extent of the affection seem to me to mark it out as an over-development of the venous tissue—errors of development often showing such caprice.

3. *The early age at which varix usually develops* is another interesting fact bearing upon its nature and eminently consistent with the developmental theory.

4. Further evidence pointing to the same conclusion lies in the fact that *varicose veins seem to be distinctly hereditary*. It is very difficult to express this with anything like mathematical accuracy, as a large proportion of patients are unable to give any information about varices in other members of their family. It is not an obvious deformity or defect that cannot be hid—a sister is not likely to know of a brother's varicocele or a brother of a sister's varix unless it causes serious inconvenience. But in spite of this difficulty in getting anything like full family histories on the point it is surprising how often patients tell us of other members of their family who have varicose veins too. The young medical man whose letter I have just quoted mentions in that letter that his father and one of his two brothers have varicose veins. Two days ago I operated upon the daughter of a medical man for varix in each lower limb whose father also suffers from varicose veins. A gentleman whom I have seen on two or three occasions for very large varicose veins which he has had all his adult life and which have in no way interfered with a most active life, including such sport as deer-stalking, mentioned on his last visit that his eldest son—a youth in his teens—was just developing varices in his thighs and legs. I might, indeed, quote from my note-book case after case illustrating the same fact. The very last case of varicose veins I saw was that of a young man who told me that his maternal grandmother, his father, and his two brothers had varicose veins in the legs—he did not know about his sisters. Out of 102 cases of varix of the limbs collected for another purpose I find that the disease was known by 52 patients to be present in some member or members of their families—more than 50 per cent. In the table of cases of Trendelenburg's operation I have put this detail in where I could, and if you will run your eye over the table, I think you cannot fail to be struck by the frequency with which the entry occurs. We know nothing of the real nature of hereditary influence, but we notice that it seems to show itself more often in errors of development, whether by way of excess, or defect, or variation, than in any other way.

5. *The striking innocuousness of varicose veins* in the great

TABLE OF CASES OF VARICOSE VEINS SHOWING THE RESULT OF TRENDELENBURG'S OPERATION.

No.	Age.	Sex.	Date of operation.	Condition before operation.	Result.
1	31	F.	March, 1899.	Internal saphena vein was tied in the middle of the thigh on each side in 1896; after a period of relief the pains had recurred and the veins had enlarged again. Now the veins were tied in the groin.	Letter, January, 1902: "Since the last operation the veins have given me little pain. My legs have not swollen much or prevented my doing a fair share of domestic duties."
2	18	M.	March, 1899.	Exceedingly large varices below the right knee; continuous dull heavy pain in them. One brother had varicose veins.	Seen January, 1902. The veins were much smaller; there was no discomfort except a slight pain if he over-exerted himself. There was no new varix.
3	37	F.	May, 1899.	The veins were large but not painful; one burst and a great deal of blood was lost, and this led the patient to seek advice. Her mother had varicose veins.	Seen January, 1902. The veins were much smaller; they caused no trouble at all.
4	29	F.	May, 1899.	The patient had varicose veins in both legs for 10 years; they ached on walking about. Three sisters had varicose veins.	Letter, January, 1902: "The varicose veins are decidedly better; one leg is quite cured, but the other swells a little at times, but is seldom painful."
5	28	F.	June, 1899.	Varices in both legs and above the left knee. The patient could remember the varicose veins since the age of 11 years; they had not altered much up to the time of the operation. One brother had been operated on for varicose veins.	Seen, January, 1902. "The operation had done her decided good; she could walk much better; the legs were painful if she stood for two or three hours, but not so much as before."
6	26	F.	October, 1899.	Bunch of veins just below the knee; there were several smaller ones lower down; there was pain on standing.	Letter, January, 1902: "Has had no pain or discomfort since the operation."
7	20	M.	October, 1899, and March, 1901.	The patient had had varicose veins for four or five years; they were very painful and ached very much after a hard day's work. The right internal saphena vein was tied in 1899; the left internal saphena vein and the right external saphena vein were tried in 1901. His mother had varicose veins.	Seen, January, 1902. The operation had done great good; the veins were cured. He was employed at a large city warehouse and had no pain or discomfort.
8	24	M.	October, 1899.	Saphena vein in the thigh prominent from the groin to the knee, bulging at the saphenous opening; tortuous varices over each calf. Two previous operations. Recurrence of varix in the left calf with pain on standing. His father and one brother had varicose veins.	Letter, January, 1902: "Quite free from any discomfort; veins hardly visible when cool; after long standing or getting hot they show up."
9	21	F.	November, 1899.	Noticed veins seven years previously. Had a good deal of pain which was getting worse. Both internal saphena veins were dilated and slightly tortuous. One sister had varicose veins.	Seen Nov. 20th, 1900. Left internal saphena vein above the knee was large and varicose, veins below knee quite small; no aching. On the right side the veins had diminished in size considerably since operation; a little aching pain after prolonged standing.
10	28	F.	November, 1899.	Very numerous varices scattered generally over both thighs and legs, giving the limbs quite a bluish colour. Subject to frequent attacks of thrombosis—as often as every other month. Her father had varicose veins.	Seen January, 1902. Since the operation she had had a slight thrombosis each autumn, "very slight to what it used to be."
11	27	M.	November, 1899.	Extreme condition of varix in the right thigh and leg; slight on the left side. His father had varicose veins.	Seen January, 1902. The right leg was quite well; the old varices could be felt, shrunken, soft, and lax. The left leg was worse; there was a varix at the back of the calf opening into the external saphena vein which ought to have been tied.
12	33	M.	May, 1900.	Veins on the inner side of the thigh and leg were very swollen and tender. Excision of varices was performed at St. Thomas's Hospital at 19 years of age; others formed in the leg and thigh; thrombosis occurred in the thigh. His mother and one brother had varicose veins.	Seen January, 1902. Had no trouble in the legs after the operation; was passed for military service in South Africa, and was quite well there till September, 1901 when he suffered from a saddle-gall.
13	26	F.	June, 1900.	Noticed vein three years. A year previously the leg became much inflamed and very painful. Large vein ran from the knee to the ankle. One sister had varicose veins.	Letter, January, 1902: "Veins are quite the natural size and do not swell. I have not had any pain or discomfort since the operation."
14	32	F.	June, 1900.	Pain from enlarged veins in both legs for three years; lately much worse. There was some eczema of both legs. The veins of both legs were varicose. The left saphena was enlarged above the knee.	Letter, January, 1902: "Veins are now their natural size, not swollen, and are free from pain, and I now follow my occupation without any discomfort whatever from them."
15	27	M.	June, 1900.	Both internal saphena veins were enlarged and very tortuous from the saphenous opening to the foot. The patient had not had pain in them. The enlargement started in the calf and had spread upwards.	Letter, January, 1902: "Veins of left leg are normal. Those of my right leg have swollen slightly since the operation. The veins are not painful and do not hinder me in my work."
16	41	M.	July, 1900.	Had pain from the veins for four years. Had an ulcer above the internal malleolus for the last two years. Was compelled to rest in bed occasionally for from two to three weeks at a time. Internal saphena in its whole length was varicose. Had large ulcer over the internal malleolus at the time of operation. The skin round it was eczematous. One brother had varicose veins.	Seen January, 1902. Leg did not trouble him now "in the least." There was no varix in the thigh; those in the leg were smaller. The scar of healed ulcer was quite sound. A considerable varix had developed below the operation scar and opened into the highest part of the internal saphena vein.

TABLE OF CASES OF VARICOSE VEINS SHOWING THE RESULT OF TRENDELENBURG'S OPERATION—*(Continued)*.

No.	Age.	Sex.	Date of operation.	Condition before operation.	Result.
17	35	M.	July, 1900.	Veins enlarged for 16 years; they had been painful for the last few months. There was some eczema on the left leg. The internal saphena was large and prominent on both sides. There was great dilatation of the vein at the saphena opening on the left side. His father had varicose veins.	Seen January, 1902. He experienced marked relief for a year afterwards. There was no pain now in the right leg; the left leg pained him below the knee. The vein in the thigh was very small; below the knee were two varicosities much smaller than before.
18	25	F.	August, 1900.	Veins swollen and painful for the last three years. The veins were enlarged on the front of the right leg and the inner side of the left thigh. Other members of the family had varicose veins.	Letter, January, 1902: "My legs are very much better. The vein in the right leg is still a little swollen and rather painful periodically, but generally speaking I do not find anything of it, and it is nothing like it was before the operation." The veins in the left thigh cause no trouble.
19	37	M.	August, 1900.	Varicose veins in the left leg "since a child"; nine years before operation a vein burst. In 1889 at the Italian Hospital three varices and a thrombus were excised. Lately the veins had been very painful. There were large blue swellings beneath the scars of former operations.	Seen January, 1902. A very good result. The veins were shrunk and lax. He said that he "occasionally has a pricking pain if he stands very much."
20	27	F.	August, 1900.	Was a nurse in hospital. Had varicose veins on both sides.	Letter, January, 1902: "Since the operation I have had no trouble with my legs; they do not swell, are not painful, and I can follow my occupation as a nurse with no discomfort, though the veins are still slightly enlarged."
21	65	F.	October, 1900.	Varicose veins "noticed when a girl." Had an ulcer occupying the lower third of the front of the left leg. There were numerous varices above it.	Letter, January, 1902: "My leg is quite well," no pain or swelling. The veins are their natural size. "I can do all my house work and take walks without discomfort."
22	19	M.	November, 1900.	Varicose veins noticed at eight years of age. Pain and the varicose condition had been getting worse during the last two years. The enlarged veins were situated on the back and outer side of the left calf. His mother had varicose veins.	Seen January, 1902. A very good result. The large varix just below the knee had disappeared; those over the inner side of the calf were much smaller and soft. "Never feels anything of it."
23	35	F.	November, 1900.	Had great irritation in the legs for the last five years. For the last two years had to rest repeatedly at work on account of pain. Large tortuous varices in both thighs and legs. Her mother had varicose veins.	Seen January, 1902. No pain in the limbs; was able to do her work better. Up to the time of operation the veins were enlarging; since then there had been no enlargement. There were numerous varices in both thighs and legs, but much less tense than before.
24	39	M.	January, 1901.	The patient was rejected for the navy at 16 years of age on account of varicose veins. In October, 1896, a vein burst and an ulcer followed. Since then two others had appeared. He had dull aching in both legs after any exertion. He had varices in both legs and thighs. His mother had varicose veins.	Seen January, 1902. No varices in the thighs; those in the legs were smaller and quite lax; he experienced no trouble from them.
25	28	F.	January, 1901.	Had varices both sides for eight years. There was increasing pain in the right knee and thigh for the last six weeks. The internal saphena in the right leg and thigh and in the left leg was enlarged. Her mother had varicose veins.	Seen January, 1902. The veins were much smaller.
26	26	F.	January, 1901.	Veins noticed to enlarge eight years previously during her first pregnancy. On the left leg were two small ulcers. Above the left knee there was a sacculus on the internal saphena vein of the size of a nut. The vein was enlarged down to two inches below the knee. Her mother had varicose veins.	Seen January, 1902. Scars of ulcers were quite sound. "No pain at all in the leg now." She felt "much better for the operation."
27	33	F.	February, 1901.	In March, 1896, the right internal saphena vein was tied above the knee; there was great relief for two years, then a return of the varices in both legs "controlled" by pressure on the internal saphena vein.	Seen January, 1902. "Left leg is always in pain. Right leg aches terribly at times; just the same as before." On the right leg numerous varices had developed in the scar and the varices below were as bad as ever. In the left leg the veins had shrunk and the pain complained of was not due to the veins; it was bad when she rested.
28	40	F.	February, 1901.	The veins were noticed 18 years previously during her first pregnancy; they were relieved after labour, but enlarged during each pregnancy. 12 months ago an ulcer appeared on the left leg. For the last 12 months pain day and night had been very severe. The internal saphena veins of the thighs and legs were varicose, also the veins of the feet. Her mother and two brothers had varicose veins.	Seen January, 1902. "No trouble since the operation." Ulcer soundly healed; the veins are smaller.
29	18	M.	February, 1901.	Enlarged veins were noticed for four months. He came for treatment on account of the pain. The left internal saphena was enlarged in the thigh and leg.	Seen January, 1902. Now no pain in the left leg, the one operated on. Complained of pain in the right internal saphena vein which had not been operated on.
30	35	M.	April, 1901.	Had great pain for several weeks before the operation, so that he could not stand upright. An ulcer had existed for six weeks. The left internal saphena was enlarged in whole length above the ulcer. His mother and sister had varicose veins.	Seen January, 1902. Veins were a little smaller; there was no pain.
31	25	F.	April, 1901.	The whole leg below the knee was thickly studded with varices giving it a bluish look. Her mother had had varicose veins.	Seen January, 1902. She did not think there was much difference since the operation.
32	27	F.	April, 1901.	Noticed veins for 10 years. Got rapidly worse during the last three months. There were groups of varices on the inner side of the knee, joining others on the outer side of the leg. There was another group on the inner and posterior aspect of the calf and inner side of the ankle.	Letter, January, 1902: "No benefit from operation." "The veins swell as much as they did before directly I stand on my legs and also are very painful at times."
33	17	F.	May, 1901.	Varicose veins for two years. The leg was painful both on standing and sitting. The internal saphena was enlarged in the right thigh and both legs.	Seen January, 1902. The veins were quite small; there was no œdema or other complication. She complained of "pain and shaking in the legs"—a neurosis.

TABLE OF CASES OF VARICOSE VEINS SHOWING THE RESULT OF TRENDELENBURG'S OPERATION—(*Continued*).

No.	Age.	Sex.	Date of operation.	Condition before operation.	Result.
34	29	M.	May, 1901.	Started about five years previously. The veins on the inner side of the right thigh and leg were much swollen and tortuous, also on the inner side of the left thigh. His father, mother, and two brothers had varicose veins.	Letter, January, 1902: "The operation has been attended with perfect success. Since about six weeks after the operation there has been no pain or swelling, the veins are reduced to their natural size, and I am able to attend to my usual occupation without the slightest inconvenience or discomfort."
35	22	M.	May, 1901.	Painful on standing.	Letter, January, 1902: "The veins still swell. The veins are not painful and I am able to follow my occupation without discomfort from them."
36	38	F.	June, 1901.	The patient came to hospital on account of pain. The veins had been enlarged for 22 years. There were varices on the inner side of the left leg, also on the inner side of the right leg and thigh and the outer side of the right foot. Her father had varicose veins.	Seen January, 1902. Quite free from pain.
37	31	F.	June, 1901.	The veins were painful. There was a large varix on the inner side of the left leg.	Letter, January, 1902: "I am able to get up and down stairs better than I have done for the last 10 years. There is no pain. The veins still swell."
38	26	M.	July, 1901.	The leg ached after standing; the patient was afraid of rupturing a vein when at work.	Letter, January, 1902: "Legs quite well. I still follow my usual occupation which is that of a coppersmith and necessitates a great strain on the legs. The veins are their natural size and are perfectly smooth, and I feel no discomfort whatever from them."
39	17	M.	October, 1901.	Veins enlarging for one year. Ached slightly after work. Trendelenburg's operation was done on both sides and at the upper end of the short saphena of the right side.	Seen January, 1902. The veins were smaller. He had not felt any inconvenience in them since operation.
40	32	F.	October, 1901.	Varix at the upper end of the internal saphena vein; ulcer on the right leg.	Seen January, 1902. She had lost all pain. The scar of ulcer was quite sound; there was no œdema.
41	22	M.	October, 1901.	The veins caused slight irritation at night.	Seen January, 1902. The veins were much smaller. He had no inconvenience from them.
42	39	M.	November, 1899.	A very neurotic man. Varix was first noticed at 18 years of age and had been steadily increasing ever since. The right internal saphena vein was varicose in the lower quarter of the thigh and below the knee. In the left leg was a bunch of varices communicating with both the internal and external saphena veins and other varices lower down. Both the internal and the left external saphena veins were tied.	Seen May, 1900. All the varices were decidedly better. He complained now of pain on standing, which was relieved by raising the legs. This pain started in the right buttock, passed down the back of the thigh to the knee, to the heel and on to the base of the fifth metatarsal bone. There was tenderness on pressing over the great sciatic nerve.
43	41	F.	February, 1900.	Varices in each leg which were only controlled when the external and internal saphena veins were compressed. The patient had worn elastic stockings for years and even with them had great pain on standing and walking. Felt "quite well down to her groins." Both the internal and the external saphena veins were tied.	Letter, February, 1902: "I have no pain; one leg is perfectly cured, and the other just shows the vein." "I am often glad that I went through the operation."
44	59	M.	April, 1900.	Numerous large varices in the left leg involving the internal saphena vein and its branches; the main vein was enlarged up the lower half of the thigh and at the saphenous opening. When the internal saphena vein was compressed two small varices in the calf partly filled out; when the external saphena vein was also compressed all the varices were kept empty. Both the saphena veins were tied.	Letter, February, 1902: "I have never had a moment's trouble since my operation and my legs are in perfect condition."
45	53	F.	March, 1900.	Many varices in the left leg and thigh which ached greatly when she stood. Had had one attack of thrombosis.	Letter, February, 1902. "Veins are only slightly swollen. No pain on standing or walking."
46	30	F.	April, 1900.	The right internal saphena vein formed many tortuous loops up the leg from the foot to just above the knee. There was aching pain. Operation was advised in view of approaching marriage.	Letter, February, 1902. No pain or trouble. Veins smaller. Has had one child and one miscarriage. No trouble during pregnancies.
47	39	F.	July, 1900.	Varices in the right thigh. There were much aching and twitching pain on standing and walking.	Seen February, 1902. The patient was very much better. There was no pain now; she was able to do her work as a nurse without discomfort. The veins were smaller.
48	44	M.	May, 1901.	Many varices over the lower two-thirds of the thighs and all down the legs to the ankles with prominent veins over each outer malleolus. There was pain on long standing and on walking. Both internal and external saphena veins were tied and the varix over each outer malleolus was excised.	Seen February, 1902. There was much less pain—practically none. The veins were smaller but were still visible.
49	29	M.	January, 1900.	Numerous varices in the right thigh and leg since 16 years of age. The internal saphena vein was varicose below the middle of the thigh, much so just below the knee; there were several large veins all round the leg. A large vein passed up the front of the thigh well to the outer side of the femoral vessels and appeared to enter the circumflex iliac vein. Pressure on the internal saphena vein did not control the varices; pressure on it and the vein to the outer side of the thigh did. He had lately had several attacks of slight thrombosis. Both veins were tied in the groin.	Seen December, 1901. Was very much better. He took active exercise—cycling, golf, shooting, and hunting—without pain. The internal saphena vein and tributaries had shrunk almost to normal size. The outer vein on the thigh was not materially altered; it appeared to have a deep communication just above the middle of the thigh and through this it was filled by regurgitation.
50	38	F.	August, 1901.	Moderate varices of the right internal saphena vein in the thigh and leg. There were several dilated veins in the groin and the inner and upper part of the thigh. She complained of a great deal of pain, especially in the groin, which often unfitted her for her work.	Seen February, 1902. She had lost her pain and was able to do hard work as a nurse without any discomfort—a thing that was impossible to her for years before. The veins had many of them disappeared and all were much smaller.

majority of cases, also, I submit, supports the same view of their nature. An extreme degree of varix persisting for many years is by no means incompatible with unimpaired function and structure of the parts draining into the enlarged veins, and the varicose veins themselves will often persist throughout life without undergoing any secondary or further changes. This *stability* of varicose veins is, I think, an important point. We often find them persisting quite unaltered for many years, and they are certainly less troublesome in the later than in the earlier years of adult life. It seems to me that this fact is more compatible with the view that they are an exaggeration of a normal physiological structure than the result of a pathological process.

6. The last point I would mention is the *minute structure of a varicose vein*. I believe that all the normal constituents of a vein are found in a varix and are usually increased in amount. It is often stated that the thick walls of a varix—and they may be very thick—are composed almost entirely of fibrous tissue. I have examined a good many and that has not been my experience: an increase of the muscular tissue is as notable as the increase of fibrous tissue and endothelial hyperplasia is sometimes a marked feature.

These, then, are the reasons which seem to me to show that varices are essentially the result of an over-development of venous tissue closely allied to, if not identical with, angeioma.

But associated with this growth of venous tissue there is very usually a failure in the valve apparatus which allows of regurgitation of blood from the main deep veins into the superficial veins. Since reading Trendelenburg's paper I have investigated this point in every case of varix of the lower limbs that has come under my observation, and I have found that regurgitation into the superficial veins is an almost constant phenomenon. The observation is made thus. Having examined the patient in the standing position he is asked to lie down on his back and the limb to be tested is raised to the vertical and the varices are completely emptied by gentle centripetal pressure. The thumb or forefinger is now placed in the groin so as to compress the upper end of the internal saphena vein and the patient is told to rise. It will be found that almost without exception the varices will remain lax and almost empty so long as the compression is maintained upon the main vein above, but that they fill out at once from above when the compression is removed. The regurgitation of blood into the superficial veins is sometimes most striking and obvious—in other cases it is less free, but I have rarely failed to demonstrate it in any well-developed case of varix. In some instances I have found that it has occurred from the popliteal into the external saphena vein instead of, or as well as, from the common femoral vein into the internal saphena vein. In one case I found that the back flow occurred through a small vein passing up the thigh just internally to the line of the anterior iliac spine as well as into the internal saphena vein. This regurgitation is not a normal condition. At my request Dr. H. Campbell Thomson has made observations on this point in the post-mortem room at the Middlesex Hospital, and he has entirely failed to inject fluid from the external iliac vein into the internal saphena vein, owing to the efficiency of the valves at the mouth of the superficial vein. He has made for me some preparations showing these valves. There is a double valve at the mouth of the saphena, the cusps being very unequal in size; two inches lower down another pair of cusps is found, and so on down the vein. In the normal state these valves are quite efficient. I am convinced that the connexion between insufficiency of these valves and varix is close and important, and I must confess that even after reading Trendelenburg's paper I was not prepared to find the regurgitation so nearly constant or so marked as it is.

Before passing on to speak of the treatment of varix, I should like to say just a word about the importance of the affection. I am certain that the public have a very exaggerated notion of the gravity of varicose veins and one comes across certain neurotic individuals whose life is made miserable by the constant anticipation of evils which never arise.

The effect of varices upon the nutrition of the part, whether the leg or the testicle, is, I believe, very small, if indeed it be at all perceptible. Certain I am that many persons carry about in their legs and thighs for many years very large and numerous varicose veins, unalleviated by any external pressure or support, without suffering in any way at all—the skin remains elastic and supple, the subcutaneous tissue is free from œdema or induration, and the surface is proof against eczema or ulcer. The troublesome ulcer of the lower third of the leg with thickened edges and unhealthy base—so slow in healing, often so painful—the ulcer that I think has been nicknamed "varicose"—certainly occurs in splendid perfection in limbs devoid of a single varix, and its cause must be sought for elsewhere than in the veins.

The most frequent ill-effect of varices is a sense of fulness or weight in the part which may amount to severe aching in the distended veins. It is brought on by prolonged standing or walking and comes on much sooner in hot climates. It occurs only in the upright position and is at once relieved and quickly removed by recumbency. Some patients complain of a pricking or starting pain in the part. Neither the extent, nor the seat, nor the degree of the varix affords a measure or explanation of the suffering attributed to it. Many patients with well-marked and even extensive varices are able to undergo considerable fatigue without discomfort, while others with apparently far less cause make grievous complaint. The most striking instance of this that I have seen was a nervous, ill-nourished man with a quite moderate development of varices in both legs. He described his sufferings from the veins as most severe and sufficient to make his life miserable, and he gravely assured me that often when attending meetings of boards of directors in the City he had to retire into an adjoining room and to stand on his head "to let the blood out of his legs." This is the only *frequent* ill-effect. Much less often we meet with thrombosis in a varix or started in one—and more rarely still a vein bursts or is ulcerated into and free venous hæmorrhage occurs. Where varicose veins do not trouble the patient he need rarely trouble about them. But a young woman with large varices is wise to have them treated before marriage and pregnancy, and young people of either sex should have them treated before going to live in a hot climate. Thrombosis I propose to speak of in a subsequent lecture.

TRENDELENBURG'S OPERATION.

Believing that insufficiency of the valve at the opening of the internal saphena vein plays a great part in causing varix below, Trendelenburg in 1891 proposed to treat the disease by division of the upper end of this vein between two ligatures. The operation has been extensively practised, but I believe that there is a wide divergence of opinion as to its value. For the last six years I have treated almost every case of varix in the lower limbs that has required operation by Trendelenburg's method, and as my cases up to the end of 1901 numbered 120 I hope that my results, so far as I can describe them, may be of service in leading to a correct estimate of the value of this treatment. The operation has the great advantage of being a simple one, rarely requiring more than five minutes for its performance. Gas and oxygen are often the only anæsthetic needed. The saphena vein can readily be found by remembering that it lies a finger's-breadth to the inner side of the common femoral artery, the pulsation of which can easily be felt in the groin. I prefer to expose the vein by an oblique incision from one and a half to two inches long parallel with the fold of the groin and having its centre over the vein. The vein is found lying between the two layers of the superficial fascia, it is cleared and a double ligature is placed on it, one thread being tied as high up on the vein as possible, the other about two inches lower down, and the intervening portion of the vein is cut out. The wound is closed by a few points of suture and is sealed by a collodion dressing. The patient is able to get up, as a rule, on the eighth day and to leave the hospital two days later.

I published the results of my first 50 cases—so far as I was able to learn them—in THE LANCET in 1899.[2] I have prepared a table of the cases operated upon since that date, but I have included in it only those cases whose present condition I have myself seen or received a written report of. These are 50 in number. As far as possible I have recorded the patient's own words so that I may not even unconsciously colour the report.

Two young patients—Nos. 31 and 32—are no better for the operation; all the others have experienced benefit. The results of the operation may be submitted to three tests: (1) its influence upon the patient's comfort; (2) its influence upon the veins themselves; and (3) its influence upon the liability to thrombosis.

[2] THE LANCET, April 8th, 1899, p. 941.

Influence of the operation upon pain.—Always excepting the cases already mentioned, *all* the patients express themselves as being in less pain since than before the operation. Many of them say that they are now quite free from pain (see Nos. 3, 6, 8, 14, 16, 20, 36, 40, &c.). Some mention having slight discomfort after prolonged exercise. (See Nos. 1, 2, 9, and 19). The effect of the operation upon the pain is, then, most marked and is nearly always entirely satisfactory.

Influence of the operation upon the veins.—Here we meet with considerable variation. In no single case that I have seen has any increase of the varix, or any new development of it, been witnessed after the operation. When we remember that in many cases there is a slow progression of varix for some years and notice the early age at which some of the operations were undertaken, I think that we must acknowledge that we have here a distinct effect of the operation. In many cases (see Nos. 7, 13, 14, and 21) the operation is followed by the disappearance of the varices, the subcutaneous veins exhibiting no departure from the normal. In many others (see Nos. 2, 15, 22, 39, and 41) the varices shrink but do not disappear; they remain distinct but flaccid and less tense than before and, as already said, painless. In a very small minority of cases the veins seem to be little if at all affected by the operation. The veins in the thigh are more and more constantly affected than are those in the leg

Influence of the operation upon thrombosis.—Some of the patients operated upon had suffered before the operation from recurring thrombosis. It is certainly a most noteworthy point that the tendency to thrombosis seems to be very greatly lessened, if not entirely removed, by this operation. In support of this statement I should like to mention one or two cases.

CASE 4.—The patient was a woman, 52 years of age, who had suffered very severely for many years from very extensive varices in both lower limbs. She had for years worn elastic bandages from the feet to the groins, and even with this support she was greatly hampered in her work as a nurse, "never any comfort, sitting, standing, or lying." Shortly before my operation in February, 1898, she had experienced four separate attacks of thrombosis which had kept her confined to bed for a long period and had greatly impaired her usefulness. She has had no thrombosis since the operation, she has lost all her pain, has been able to dispense with the elastic bandages on the thighs, and, as she puts it, she "hasn't felt so well for years" as she does now. She is indeed very enthusiastic in her estimate of the value of the operation to her.

CASE 5.—The patient was a healthy, robust man, 29 years of age, who was sent to me by Dr. F. W. Burton-Fanning of Norwich. His case was a little peculiar inasmuch as in addition to an enlarged internal saphena vein in the right thigh and numerous varices in the leg, there was an enlarged vein running up the front of the thigh and entering apparently the circumflex iliac vein. Pressure upon the saphena vein did not "control" the varices below unless this vein was also compressed. This patient, in addition to aching pains in the veins, had suffered from several slight attacks of thrombosis just before he consulted me. I ligatured and divided both of the veins in the thigh (No. 49) and the result has been a distinct diminution in the size of the saphena vein and its tributaries, but no such change in the other vein which seems to be "fed" by a deep communication about the middle of the thigh. He is able to walk, to ride, to shoot, to cycle, and to play golf with comfort, and he has had fewer and slighter attacks of thrombosis which now seems to have ceased.

CASE 6.—This case is No. 10 in the table. The patient, a woman 28 years of age, had very frequent attacks of thrombosis—often every other month—up to the time of the operation. Since then—a period of two and a quarter years—she has had two "slight attacks" only, "very slight to what it used to be."

Where the varices are only "controlled" by pressure upon the external saphena vein as well as the internal I now obliterate the upper end of each vein, and I think that I have succeeded in benefiting cases by this means which in my earlier experience did not reap the full benefit of the operation.

To sum up, I would say that Trendelenburg's operation is not only a simple and safe proceeding, but one that is very useful indeed in nearly all cases of varix. It may be relied upon to relieve the aching pain so often felt, it always stops further development of varices, it frequently leads to the shrinking, or even to the disappearance, of varices, and it exerts a strong influence in preventing thrombosis. Its good effects are most pronounced where regurgitation into superficial veins is best marked. Its superiority to excision of varices is greatest in cases of widely-distributed and numerous varicose veins, for it exerts its influence upon all the veins emptying into the saphena trunks. It is therefore useful in those widely-distributed, even general, varicosities of the lower limbs for which excision is inapplicable. To ensure success the vein or veins must be obliterated quite at their junction with the deep veins. The fact that this operation has such a marked effect upon the course of varix is a strong proof of the important part that valvular defect plays in the history of cases of varicose veins.

GREY HAIR AND EMOTIONAL STATES: AN ANTHROPOLOGICAL NOTE.

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CASES of the hair turning "grey in a single night" are said occasionally to occur, but it is uncommon to meet with well-authenticated instances.[1] The following case hardly comes under the category of "sudden blanching," as a period of five weeks in August and September last elapsed during which the hair and beard of this patient changed from a flecking of grey to absolutely pure white. Owing to this change, which an officer in charge of the patient described as having occurred "all at once," I hardly recognised the man upon my return after five weeks' absence, although I had seen him frequently, almost daily, since his admission into the asylum eight years before. No other dermal or pigmentary changes occurred and there had been no affection of vision, hearing, or other of the special senses.

The patient was a thin, spare-built man suffering from paranoia, 53 years of age, five feet eight inches in height, and weighing 10 stones. He was a clear-complexioned, blue-eyed, intelligent and thoughtful-looking man, with some reserve of manner. For two or three months before admission into the asylum he gave way to drink as he had been much worried about his work in the electrical department of the General Post Office where he had been engaged for three years, but during the whole time was "overstrained." Previously to this he had been in India and Australia for about two years, and, with the above exception as to excessive use of alcohol, was described as "always reserved and steady." He was married at the age of 23 years, had never had syphilis, and was said never to have had a day's illness in his life. He developed delusions in regard to his occupation, suspecting that a cable was connected with his house at a pressure of 10,000 volts, which would kill him, his wife, and his whole family (four children). He connected this persecution with those most intimately associated with him in bonds of affection and became aggressive and dangerous towards them. Sleeplessness, fear, and apprehensiveness preceded aural and sensory disturbances which dominated his reason and controlled his actions; he became suicidal and was received into the Claybury Asylum in a low, depressed condition, with no appetite, and very deluded. The despondency increased, he became feeble and emaciated, and the delusions of persecution became very prominent. He thought that he was being written about in all the papers. He became violent, very noisy, abusive, and aggressive, and was for a time under the influence of either bromides, chloral, or sulphonal. He improved somewhat physically, but latterly his emotional tone had become sombre and melancholy. He stated that during the whole of August last a machine upon the roof shunted unbearable electrical currents upon him which so terrorised him that he feared that each night would be his last as his life was to be destroyed. He now talked less about his delusions—which, however, still persisted—and he occupied

[1] Dr. B. Thornton: THE LANCET, November, 1891. Dr. H. Grabham Lys: THE LANCET, April 23rd (p. 904) and 30th (p. 968), 1892. Gould and Pyle: Anomalies and Curiosities of Medicine.

himself in the wards. He was less aggressive and he talked more freely and sensibly about incidents that had occurred in his past life. His sight was very good and his hearing tested with Galton's whistle was preternaturally sharp. His common sensation and other senses were normal. The heart and the lungs were unaffected and the blood-pressure was 130 millimetres (Hill and Barnard). The urine was normal. The history of his family obtained from his wife and himself was free from insanity. Born a Londoner, his father lived to the age of 78 years, and had not lost his hair, which was grey. His mother lived to the age of 76 years and had no grey hairs. His maternal grandfather died a very old man, older than did his father, and was said to have had no grey hairs. His maternal grandmother he could not remember. His paternal grandfather died at a good age, and his paternal grandmother was not grey when she died at the age of 78 years. He had one brother and two sisters; none of them had ever been in an asylum. His mother had five sisters and one brother. His father had one sister and two (? or three) brothers. None of the uncles or aunts were ever in an asylum. His four children (girls) were all well. None of the family had ever had gout or rheumatism. Reproductions of photographs of him are appended before and after the change in the hair. (Figs. 1, 2, and 3).

FIG. 1.

On admission.

FIG. 2.

After blanching.

FIG. 3

After blanching.

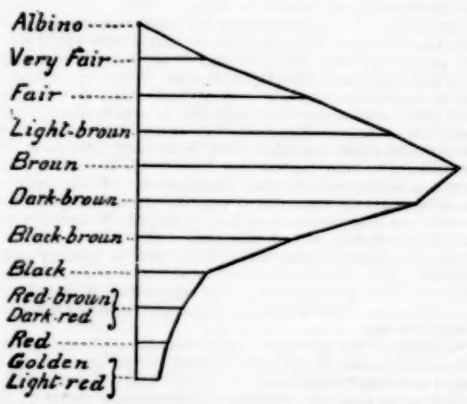
On microscopical examination the character of the hair as to number appeared to be normal and the following microscopical description given to me by Dr. J. S. Bolton from the pathological laboratory suggests that the condition was one of altered nutrition:—

They are free from pigment and in their outer parts have an opaque and silvery appearance. The cuticle is extremely thin. The fibrous layer is atrophic and in the distal third of the hair is completely infiltrated with minute air lacunules; air is also present to a less extent in the middle third. The medullary portion is smaller and more varicose than usual. The bulbs are small and atrophic and are almost entirely free from adherent root-sheath.

REMARKS.

It is well known that certain coloured and certain textured hair accompanies and indicates certain temperaments and dispositions. This statement applies to individuals as well as to races. In Galton's observations,[2] taken from the report of the Anthropometric Committee of the British Association in 1880, the diagrammatic representation (Fig. 4) gives the proportion in which the various colours of the hair are found among the professional classes and this was found to be a fair representation of other classes of the community. I have

FIG. 4.



taken a record in Claybury Asylum (based upon this classification) of 2393 insane persons (see Table I.) of varying ages—viz., 1400 females and 993 males (see Table II.)—

TABLE I.—*Giving the Colour of the Hair in 2393 Insane Persons.*

—	Males.			Females.		
	Percentage of total 993	Percentage attending chapel.	Percentage attending entertainments.	Percentage of total 1400	Percentage attending chapel.	Percentage attending entertainments.
Albino	—	—	—	—	—	—
Very fair	3·3	0·6	0·5	0·9	—	0·4
Fair	5·9	0·4	1·3	4·3	1·0	1·1
Light-brown	11·3	2·1	2·6	14·8	3·0	3·2
Brown	10·8	2·1	1·2	17·7	0·7	1·8
Dark-brown	15·8	3·7	5·6	15·0	5·3	5·9
Black-brown	10·3	0·2	0·5	7·3	0·4	1·7
Black	12·8	2·2	1·3	1·4	0·5	0·6
Red-brown, dark-red ...	2·2	—	—	1·9	0·3	0·1
Red	0·3	—	—	0·8	—	—
Golden, light-red	1·0	0·2	0·2	0·5	0·3	—
Grey	19·8	4·3	2·7	24·3	4·0	2·6
Very grey	6·2	0·8	0·5	8·7	0·1	0·7
Bald	11·0	2·9	1·8	1·8	—	—
Very bald	4·5	0·1	0·5	0·4	—	—

and my investigations yield almost similar results. There are, however, more black-brown males, but comparatively fewer men at the red end of the scale. The hair in the maximum number of men was dark-brown, and not brown as in Galton's table, whereas the women corresponded with the table and a higher percentage of women than of men had light-brown and red hair, as also grey and very grey hair (not in Galton's table), but there was a greatly preponderating number of bald-headed and very bald-headed persons among the men. This seems to indicate a more marked loss of self-control among fair females than among males, but a greater proportion of baldness (as among the sane) in men than in women. I took a further record of the colour of the hair among those who attended the entertainments and dances, and compared this record with that obtaining among those who attended Divine services (Table I.). A preponderance of very fair and brown-haired women attended the dances rather than church or chapel services, these

[2] Enquiries into Human Faculty, 1883.

TABLE II.—*Giving the Ages of Patients Resident in the London County Asylum, Claybury.*

Age.	Males.	Females.	Total.
Under 5 years...	—	—	—
From 5 to 10 years	—	—	—
,, 10 ,, 15 ,, ...	—	—	—
,, 15 ,, 20 ,, ...	69	102	171
,, 20 ,, 25 ,, ...	101	137	238
,, 25 ,, 30 ,, ...	122	169	291
,, 30 ,, 35 ,, ...	141	195	336
,, 35 ,, 40 ,, ...	166	180	346
,, 40 ,, 45 ,, ...	122	131	253
,, 45 ,, 50 ,, ...	85	125	210
,, 50 ,, 55 ,, ...	69	157	226
,, 55 ,, 60 ,, ...	38	63	101
,, 60 ,, 65 ,, ...	67	96	163
,, 65 ,, 70 ,, ...	13	26	39
,, 70 ,, 75 ,, ...	—	19	19
,, 75 ,, 80 ,, ...	—	—	—
Totals	993	1400	2393

latter being of the darker, more sober, or atrabilious temperament, and this was also true of the men. In both sexes it was noticed that grey-haired persons attended services in preference to entertainments—the passive attitude of religious ministration being more appreciated by the old, whereas active indulgence in pleasurable pursuits prevailed among the young.

The influence of nervous changes upon the hair has not been fully worked out; but we are familiar with the harsh, dry hair and skin in melancholia, the sebaceous, oily condition of the latter in the dementia of general paralysis, and the up-standing shock of hair and peculiar odour of the skin emitted in certain cases of mania. Woods Hutchinson[3] insists that a due recognition of the "hereditary relationship and common ancestral origin" of the skin and cerebro-spinal axis from the epiblastic layer of the blastoderm has been much overlooked, and also that the dignity and importance of the skin as an organ have not hitherto been fully acknowledged. The vaso-motor flushing of the skin in the mental disturbance of general paralysis, and the pinched, sallow look of melancholia, apart from the many changes that take place in the skin under normal mental states, indicate the control over it of the nervous system, as also over certain pigmentary changes such as accompany pregnancy, certain morbid utero-ovarian conditions and cachectic states (Addison's disease, cancer, &c.), and over the hair in certain diathetic conditions such as gout when the hair is thick but becomes white at a very early age. One of the most interesting papers by Lister to the Royal Society[4] was an experimental proof that the changes of colour in the skin of the frog were due to influences such as would excite the nervous system and that these influences were conveyed by nerves distributed to the skin. Normally the pigment is diffused naturally in the form of minute dark granules suspended in a colourless fluid in which those granules move freely throughout the cell and its branches, but when the skin becomes pale, as it does under the effect of stimulation or before death, the pigment accumulates in the centre of the cell. The aggregation of the pigment-molecules can be excited at will either through the nerves directly or in a reflex manner by the stimulus of light upon the retina.[5] Upon those experiments Lister based his conclusion that the cerebro-spinal axis was chiefly, if not exclusively, concerned with regulating the functions of the pigment cells. Further, Von Wittich also demonstrated many years previously to this experiment that the movement of pigment granules was dependent upon the nervous system. It has not been precisely accepted what the organic changes are which occur in the progress of the growth of a hair. A slow permeation of a fluid from the root to the point of the hair has been stated to occur, and when this ceases from any sudden cause, such as the devitalising shock of a strong emotion, air lacunules occur in the cortical layers of the hair with a consequent appearance of whiteness.[6] Indeed, the air cells so abundantly found in the fibrous or cortical layer of white hairs, and not the absence of pigment only, are said to give them their characteristic appearance,[7] although the same appearance may certainly be due also to a general lack of pigment—as is noticed in the congenital defect known as albinism. It is noteworthy that although white hair is compatible with vigorous and perfect health, as is witnessed in the winter-whitening[8] of the fur of animals inhabiting polar regions, this is not the case with albinism which is generally accompanied by a marked deficiency of vital force—deafness often occurring in cats, defects of eye sight in horses, and both combined in human beings. In the winter-whitening of arctic birds and foxes this change is an adaptability to environment, enabling them either to avoid their enemies or to deceive their prey, and it is stated to occur instantaneously and to be determined by some sudden natural phenomenon, such as a fall of snow, which has an immediate correlative effect upon the nervous system of the animal, indicating the necessity of an equally sudden adaptation to its changed surroundings. May not such cases as that recorded by Staff Surgeon Parry (under his actual observation)[9] of sudden blanching through intense emotion be analogous to the change which is known to occur naturally in the lower animals, and thus be one of those reversions which we still meet with in the physical and mental deterioration of human beings, also indicating that a sudden influence through the nervous system is brought to bear upon the organism, necessitating sudden transformation if this organism is to continue its existence under its new environment? Whatever explanation is offered of sudden blanching, which without doubt does occasionally occur, the close physiological connexion between the cerebro-spinal axis and the skin, which have a common genealogy, must be borne in mind; also (as already pointed out in the frog) the dominating control of the nervous over the pigmentary system in the batrachian may have a like influence in man. Finally, this nervous control when disturbed may exercise a correlative disturbance upon the baser tissues.

Claybury Asylum.

[3] Studies in Human and Comparative Pathology, 1901.
[4] Proceedings of the Royal Society, 1857.
[5] Medico-Chirurgical Review, April, 1861. Dr. Thomas Laycock: Clinical Researches into Morbid Pigmentary Changes in the Complexion.
[6] Quain's Anatomy, vol. i., Part II., 1893, p. 239.
[7] London Medical Record, February, 1878. Imperial Medical Society of Vienna, Dr. Wertheimer.
[8] Spectator, Dec. 21st, 1901.
[9] Medico-Chirurgical Review, 1870. Review of Flint's Physiology.

A NOTE ON HYPOSTATIC ALBUMINURIA OF SPLENIC ORIGIN.[1]

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THIS short communication deals with a small point which has very probably often been observed before, but being an isolated observation has not been thought worthy of much notice. The point, to which I wish to draw attention, is that in some patients with considerable splenic enlargement, rest in bed or in the recumbent position may be accompanied by albuminuria, and that the albumin may disappear from the urine when the patient assumes the erect position. This fact was first brought to my notice in a case of advanced leukæmia which I often saw with Dr. C. J. Heaton of Westgate-on-Sea who drew attention to the intermittent albuminuria and explained it on Falkenheim's[2] suggestion that in the recumbent position the spleen pressed on the left renal vein, interfered with the return of venous blood from the kidney and thus gave rise to albuminuria. This seems to be a very reasonable explanation of the occurrence. I have recently had under my care two other patients, with hepatic cirrhosis and splenic anæmia respectively, with considerable splenic

[1] A paper read at the meeting of the Medical Society of London on Feb. 24th, 1902.
[2] Falkenheim (Deutsches Archiv für Klinische Medicin, Band xxxv., S. 446, 1884) described exactly this condition in a man, aged 50 years, with hepatic cirrhosis and a large spleen. He observed that lying on the right side and on the abdomen did not induce albuminuria.

enlargement presenting a rather large quantity of albumin in the urine while lying in bed which disappeared after they had been up for several hours. The albuminous urine was often high coloured, and, like the urine of backward pressure in cardiac disease, lithatic. In all my three cases the night urine was sometimes found to become free from albumin.

It is, of course, necessary that the bladder should be emptied of urine when the patient gets up, otherwise an admixture of the albuminous urine, excreted while in the recumbent position, with the normal urine of the erect position will occur, and the patient may be thought to have continuous albuminuria. The existence of this hypostatic albuminuria, if the term may be used, should be borne in mind when dealing with cases where, as in hospitals, the sample of urine provided for examination is taken from the whole amount passed in the 24 hours or is that passed early in the morning while the patient is in bed.

While the albuminuria is probably due to the mechanical pressure of the spleen on the left renal vein in the recumbent posture, the occurrence of this intermittent or hypostatic albuminuria is very far from constant in cases of splenic enlargement. In this it resembles albuminuria from chronic venous engorgement induced in other ways, as, for example, in the backward pressure of mitral disease. It does not depend on the size of the spleen, for hypostatic albuminuria may be, and, indeed, usually is, absent when the spleen is very large, and may be present, as in two of my three cases, where the spleen is relatively smaller. It is possible that its occurrence or absence may depend on some difference, such as elongation, in the condition of the suspensory peritoneal ligaments of the spleen which thus determine or prevent direct pressure on the left renal vein. On this point there is as yet no anatomical evidence. It is also conceivable that the appearance of albuminuria is dependent on an underlying want of vitality or nutrition in the kidney which, though not sufficiently marked to induce albuminuria under ordinary conditions, does so when chronic venous engorgement is superadded. This is to some extent supported by the observation that in one of the more recent cases albuminuria disappeared from the night urine after the patient had been some time in the hospital, and had somewhat improved under treatment; subsequently after a slight attack of influenza the night urine again contained albumin.

It appears that the appearance of albuminuria in the recumbent position and its disappearance in the erect position is not absolutely constant even in those individuals with enlarged spleen in whom its presence has been noticed; but its temporary occurrence in three cases justifies the suggestion that it may not be so very infrequent.

This hypostatic albuminuria is the reverse of what usually occurs in cyclical albuminuria, but it is possible that there may be some cases of cyclical albuminuria in which albumin appears when the patient is lying down and disappears when he is up. I have not yet met with a case, but the possibility of such an event is suggested by Edel's[3] recent observations that a weak pulse and the appearance of albumin in the urine in cyclical albuminuria are related, and that if, by regular muscular exertion, such as marching or hill-climbing, always stopping short of fatigue, the heart's action is strengthened, the urine becomes free from albumin, lighter in colour, and more copious.

Upper Brook-street, W.

[3] Münchener Medicinische Wochenschrift, 1901, Nos. 46, 47 (Abstract, Brit. Med. Jour., 1902, vol. i., epitome No. 63).

A TOWN COUNCIL MUDDLE AT BULAWAYO.—At a meeting of the Bulawayo Town Council held on Jan. 20th, mention was made by the sanitary inspector of a case of typhoid fever the source of the infection of which could not be traced. The mayor stated that the advisability of appointing a medical officer of health would be discussed at a subsequent committee meeting. The disposal of slop and other contaminated water was also discussed. The chief sanitary inspector was asked to draw up a plan for dealing with the water, but it was eventually decided to postpone the matter. It is little more than a month ago since the Bulawayo Town Council decided, in pursuance of a "scheme of retrenchment," to abolish the office of medical officer of health as well as those of the town clerk and the town engineer. The chief sanitary inspector (acting town clerk) has resigned and the muddle thus created will certainly not help forward the health of the town.

REMOVAL OF A SARCOMATOUS TUMOUR FROM THE TAIL OF THE PANCREAS OF A CHILD FOUR YEARS AND EIGHT MONTHS OLD;

SECONDARY GROWTH IN THE PORTAL VEIN.[1]

BY JOHN D. MALCOLM, M.B., F.R.C.S. EDIN.,
SURGEON TO THE SAMARITAN FREE HOSPITAL.

THE following case seems sufficiently interesting and rare to be put on record.

The patient was a female child and was born on March 9th, 1894. Her father and mother are both alive and well; they have one other child, a healthy girl, born in 1897. One of the patient's grandfathers was said to have died from an internal cancer at the age of 65 years. The patient had whooping-cough when she was three weeks old. It was not known that she had suffered from any lung trouble. The bowels were very constipated whilst she was under immediate observation. There was no albumin in the urine, which was scanty (sometimes only 12 ounces in 24 hours), and deposited urates, its specific gravity being usually about 1030. An abdominal swelling was first noticed in April, 1898, and Dr. R. L. Guthrie sent the patient to a well-known surgeon who diagnosed a tumour of the left kidney but advised that no operation should be performed. Dr. Guthrie asked me to see the patient in May of the same year. She had then an obvious swelling in the upper part of the left side of the abdomen. It was firmly held in the position of a renal tumour, but the attachments seemed sufficiently lax to allow of the growth being shelled out of its bed. The patient was, however, extremely emaciated and anæmic, having a cachectic appearance which seemed to contra-indicate surgical interference, and I therefore agreed with the opinion and advice already given.

Dr. Guthrie treated the child with iron and laxatives, and in October, 1898, he asked me to see her again. She then had improved very much in her general condition, had quite a good colour, and was not thinner. The tumour had increased in size, but not to any great extent. It distended the hollow of the left loin, pushing the lower ribs upwards and forwards, bulging the side outwards, extending across the abdomen as far as the outer edge of the right rectus muscle and downwards to below the level of the anterior superior iliac spines. The greatest girth of the body was 23½ inches a little above the level of the umbilicus. On palpation the mass was smooth and elastic. It could be grasped between a hand in front of the abdomen and the other hand behind the loin, and although it was firmly held, there was still a slight mobility of the tumour, sufficient to make me think that I could remove it. There were some easily felt glands in both axillæ and in both groins, but they were not enlarged. The veins over the upper part of the abdomen were distended. No disease of the heart or lungs was detected. In view of the greatly improved condition of the child's general health I told the parents that she had a tumour of the kidney and explained that an operation would involve extreme risks. I also told them that I knew of only three cases in which after the successful removal of a tumour of this kind from a child the patient had survived more than a few months.[2] On the other hand, I pointed out that death must occur soon if nothing were done. It was decided to accept the risks of an operation.

On Nov. 4th, 1898, chloroform was administered and the tumour then seemed decidedly more mobile. I opened the abdomen through the upper part of the left linea semilunaris, and exposed the growth, with the splenic flexure and adjacent portions of the colon fixed in front of it. The most convenient place to open the retro-peritoneal space, in which the tumour lay, was above the transverse colon, and when the peritoneum in that situation was divided I had no difficulty in separating the tumour from the connective tissue in which it was loosely imbedded. Some firm adhesions to the lower end of the spleen were separated and the new

[1] A paper communicated to the Pathological Society on Feb. 18th, 1902.

[2] The patient in one of these cases, which was published by myself in the Transactions of the Clinical Society of London, 1894 and 1895, is alive and well, more than nine years after the operation.

growth was then easily drawn out of the abdominal cavity, the tail of the pancreas being dragged out with it. The tumour was then only attached to the pancreas and it was impossible to separate them without cutting through pancreatic tissue. In doing this large vessels were divided, but hæmorrhage from them was easily controlled by ligatures. No ureter was seen during the operation. There was a second new growth, of about the size of a bantam's egg to the right of the cavity from which the tumour had been removed. I thought that this was a collection of glands affected by malignant disease, but the patient was in such a serious state of collapse that it was out of the question to attempt an investigation of the nature and connexions of this second abnormal condition. I therefore ligatured all bleeding points, having much trouble in securing those on the spleen. I washed out the abdominal cavity with warm sterilised salt and water, leaving as much as possible inside, when the wound was sewn up, with a view to counteracting the shock of the operation, which, however, was not survived by the patient.

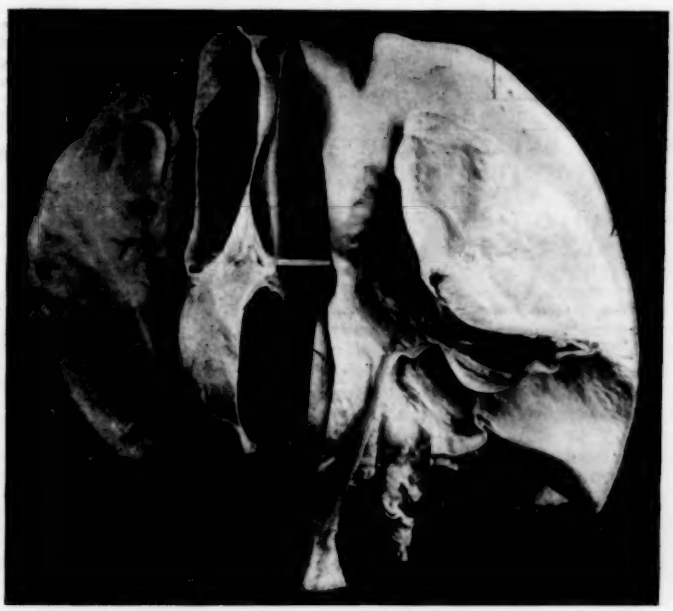
FIG. 1.

Tumour removed from the tail of the pancreas. The figure is about half the actual size of the tumour which measured five inches in its longest diameter. No. 2836A, Royal College of Surgeons of England Museum.

At the necropsy, which was conducted by Dr. Cuthbert H. J. Lockyer, caseating glands were found near the bifurcation of the bronchi and in the anterior mediastinum. There were extensive old pleuritic adhesions on the right side. There was no sign of peritonitis or of union of the lips of the wound. The peritoneal cavity was full of fluid (the salt and water introduced at the operation), which at first flowed away clear, but that from the loin pouches was deeply blood-stained. The kidneys were healthy and were normal in position. Part of the transverse colon was separated from its attachments, its meso-colon having been completely divided, and the omentum had been removed from all but the left one and a half inches of the stomach. The left pleuro-colic fold was intact. The spleen had a wound on the lower end of its inner surface one and a half inches long. The left half of the pancreas was absent, its cut surface presenting many ligatured points. There was a smooth encapsuled growth situated in the gastro-hepatic omentum with the bile-duct and some vessels in front of it. The neck of the gall-bladder, and the transverse fissure of the liver were above it. The foramen of Winslow was behind and the new growth seemed to be connected with the head of the pancreas below, the connexion between the two being much constricted.

The parts were sent to the Royal College of Surgeons of England and when they had been dissected it was found that the mass in the lesser omentum was a new growth inside the portal vein and widely distending it. Mr. Shattock has examined the tumours and both are fibro-sarcomatous in structure. The specimens are preserved in the museum of the College and the accompanying illustrations (Figs. 1 and 2),

FIG. 2.



Under surface of the liver, parts of the stomach, duodenum, and gall-bladder and the divided portal vein greatly distended. In dividing the vein the tumour also was divided into two unequal parts, the larger of which, nearer the liver end of the vein, was found to be quite unattached and has been removed; a considerable portion of the remaining part of the tumour is also obviously unattached. The vein was not occluded; a bristle is seen passing by the side of the tumour through the lower portion of the vessel. (Half size.) No. 2836B, Royal College of Surgeons of England Museum.

which are reproduced from photographs taken by Mr. H. George, give a very faithful representation of their appearance.

Although the nature of the tumour removed in this case was doubtful even at the end of the operation the conditions found at the post-mortem examination of the body showed that it certainly had grown from the pancreas, from which it had been noted that the chief blood-supply of the new growth came; a larger portion of pancreas had been removed than I thought when operating. The differential diagnosis between an enlarged kidney and a tumour of the tail of the pancreas may be quite impossible. Once before [3] I operated on a tumour having almost exactly the same relations as in this case to the tail of the pancreas and to the surrounding structures, and I was assisted in mistaking the tumour for a renal enlargement by three of the most experienced men in London. I removed a cystic tumour, having to divide the pancreatic tissue as in the case now recorded. In that case I examined the parts during the operation and found the kidneys and spleen in their normal positions. The patient made a good recovery, is still alive, and has had no further trouble from the tumour or from the operation. In neither of these cases was there any difficulty in arresting hæmorrhage from the pancreatic tissue, although in the first case there was much trouble in finding a bleeding point. In the present case it did not seem to me that there was any great difficulty in arresting hæmorrhage from the torn spleen by pressure or even by ligatures except that it was very far from easy to expose the parts to view. But the presence of an obstruction in the portal vein and the fact that towards the end of the operation the patient was in a state of extreme collapse render observations on this point of little value in this case. It is obvious that no operation could have cured the patient, but it was not possible to discover the smaller secondary growth until the larger one was extracted. I was right, however, in considering that the tumour diagnosed was removeable. If there had not been a secondary growth there would have been a very fair prospect that the patient might have done well, and I regret that I did not recommend operative treatment when I first saw the child.

Portman-street, W.

GENERAL REMARKS ON ASYLUM DYSENTERY AND ITS TREATMENT BY INJECTIONS OF PERMANGANATE OF POTASH.

BY P. W. MACDONALD, M.D. ABERD.,
MEDICAL SUPERINTENDENT, DORSET COUNTY ASYLUM.

AT a time when attention is being directed to irrigation of the bowel as a successful method of treating dysentery and allied conditions mainly in the light of experience gained during the South African campaign, it may be of interest to give a few details of the treatment of this troublesome complaint by means of injections of permanganate of potash.

Asylum dysentery, or so-called "colitis," has of late years been a source of much anxiety in many of the institutions for the insane in this country. The subject has been fully and lucidly dealt with by several able writers, but beyond mentioning the stock remedies the question of treatment has occupied a subsidiary place. The main object of the numerous workers, in what threatens to turn out a somewhat unprofitable field of research, would seem to be the elucidation of the causation and spread of this vexatious and recurring complaint. At a recent meeting of the Epidemiological Society the whole subject was re-discussed in all its bearings, and the two points on which there seemed to be a general agreement were the spread of the complaint by the removal of patients from one institution to another and the infectious nature of the disease as evidenced by its occurrence among patients sleeping in dormitories. While dysentery has been more common in asylums of late years than formerly, it must not be supposed that it is a new complaint in these institutions. There are records and particulars of its occurrence in asylums long before the present-day ideas of germs, bacilli, &c., were promulgated. Numerous as have been the attempts to trace the origin and spread of dysentery in asylums no very clear or definite ideas have yet been arrived at. Overcrowding, sanitation, ventilation, and so on, have respectively been penalised, but there is no consensus of opinion why dysentery should have become a troublesome complaint in a latter-day nineteenth-century asylum, and that, too, where none of the causes already mentioned exist. Defects in sanitary arrangements would be sufficient, but often none exist, and the attempts to associate the disease with a certain well-known system of warming and ventilation have completely failed. As regards overcrowding there are numerous instances of its appearance where overcrowding did not exist. At the same time, where there is congestion of space, if not actual overcrowding, the conditions are favourable, and if there is associated with these the unnatural craving for warming dormitory space I am of opinion that a fair explanation is offered for the occurrence of many cases of dysentery. In round numbers three-fourths of asylum patients are physically hale and hearty and should not, and do not, require artificially warmed space after 8 P.M.

During the autumn of 1899 and the spring of 1900 dysentery appeared in the Dorset County Asylum, and while the cases were not numerous, yet they were sufficient in number to cause inconvenience and anxiety. Starting on the female side, the cases were of the usual well-known type and character and the number of severe attacks were in about the usual proportion. After a time, and when there were no cases in the women's wards, cases began to appear on the male side, and these, if fewer in number, were more severe than among the women. At this time the ordinary therapeutic remedies were employed and in a few cases injections of a solution of nitrate of silver were tried, but the results were most discouraging. As far as practicable the cases were isolated and the complaint disappeared from our midst, only to reappear again in the winter of 1900. It was during this second outbreak that the use of injections of permanganate of potash was resorted to. As soon as the case was diagnosed to be one of dysentery the lower bowel was washed out night and morning with a weak solution (from two to four grains to the pint) of permanganate, the instrument used being an ordinary enema syringe. The motions rapidly lessened and seldom had the treatment to be prolonged beyond the third day. In every one of the cases—and several of them were severe—the patients recovered. Not only was the treatment successful, but by the early and judicious use of the injections the outbreak was cut short. At the time doubts were entertained as to the value of the treatment, but after a further experience these doubts were removed and now every case of a dysenteric nature or of severe diarrhœa is treated by this method. In each instance recovery has followed the treatment. Apparently the permanganate acts in its double capacity of a disinfectant and a styptic. In the more severe cases milk as an article of diet was found to be unsatisfactory. It was not only rejected but it increased the intestinal irritation. This, I believe, is not an uncommon experience. The main article of diet used was a mixture of special beef-tea and specially prepared rice, together with a liberal allowance of port wine. To ensure success the treatment should be commenced early and thoroughness is an essential precaution. In one case only after the permanganate treatment had been adopted has there been an opportunity of examining the bowel post mortem. This was the case of a demented melancholic who had a very severe attack of dysentery from which she made an excellent recovery. The injections were continued for five days and the patient was quite convalescent in three weeks. Soon afterwards she developed acute double pneumonia to which she succumbed. At the necropsy the mucous membrane of the rectum showed numerous healed ulcers, so different from the ulcerated congested state of the bowel in fatal cases from dysentery. Two classes of patients—the tuberculous and the general paralytic—invariably give bad results. The reason is too evident to need any explanation.

While my experience of the permanganate has not been extensive I think it has been sufficient to warrant the results being made known and I am hopeful that this short paper may be the means of inducing others to try the treatment as opportunity occurs.

Dorchester.

[3] Transactions of the Medical Society of London, 1898.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

GENERAL RESTRICTION OF DIET IN DIABETES.

BY G. S. KEITH, M.D., F.R.C.P. EDIN.

THIS brief outline of a case of diabetes which has recently been under my care may be of interest to the readers of THE LANCET inasmuch as it bears out the beneficial results of a method of treatment which I have advocated for many years. In its results, however, it is no whit more satisfactory than I have found to be the case in innumerable instances of divers diseases which have been described in my "Plea for a Simpler Life" and "Fads of an Old Physician."

The patient, a man, aged 38 years, had resided for several years in a tropical but not unhealthy climate. He came home early last year as the heat did not seem to suit his health and since then he has been living in North Berwick where he could enjoy his favourite game of golf. He there consulted a medical man and was told that the immoderate thirst from which he was suffering was due to diabetes. The specific gravity of his urine was then found to be 1037. Subsequently he was advised to consult a London specialist who put him on the usual anti-diabetic diet. He was ordered to abstain from everything which contained starch or sugar and was given a long list of animal and albuminous foods in which he could indulge. No restriction whatever was put on the quantity of these and, further, he was recommended to take fatty substances *ad libitum*, with the view of restricting the waste of tissue which was going on very rapidly. He soon found that the fats which he consumed in large quantity did not agree with him and his medical adviser in Edinburgh advised him to discontinue their use; this he did with marked benefit.

I first saw the patient about the middle of October, 1901. He had then lost about two stones in weight, but his muscular strength was only slightly impaired, and he was still able to enjoy a game of golf. He had, however, an intense craving for food, suffered from severe thirst, and was likewise passing a very large quantity of urine. I recommended him, therefore, to reduce as rapidly as possible the total nitrogenous intake, and at the same time to introduce a small quantity of bread into his dietary. I saw him again three weeks later and during the interval he had reduced his total food to a very moderate allowance, while for the last week he had taken for breakfast a couple of ounces of bread which he enjoyed amazingly. The craving for food and water had practically disappeared, while the amount of urine was now reduced to two and a half pints. An analysis of a sample gave the following results: specific gravity, 1019; albumin, *nil;* and sugar, 0·32 per cent. His weight had increased in three weeks by six pounds—a fact which, as I pointed out to him, was no doubt owing to the retention in the system of water which had previously served as the vehicle for the discharge of waste products and in this way had been lost to the tissues. He now resolved to return to the tropics in order to resume the duties which he thought he had finally relinquished. I saw him again two months later (Jan. 6th, 1902) and found that he had made arrangements to leave the country in the middle of the month. In the meantime he had a slight return of his former symptoms, owing probably to the fact that while still reducing his animal food he had indulged somewhat too freely in farinaceous and sweet articles of diet. On the adoption of the dietetic restrictions previously ordered the symptoms once again rapidly disappeared, and at the present moment he is on the point of carrying out his original intention of resuming work.

The interest of this case centres in the remarkable amelioration of the diabetic symptoms which followed a general restriction of diet without reference to particular elements of food. This is nothing new in face of my past experience and I attribute it, as I have endeavoured to show in my published works, to the curative influence of a restricted diet, more especially with regard to nitrogenous foodstuffs.

Currie, Midlothian.

A CASE OF INFECTIVE PERIOSTITIS.

BY JOHN R. GRIFFITH, M.R.C.S. ENG., L.R.C.P. LOND.

A SHORT time ago I attended a child suffering from the above disease and as the case presented, to my mind, one or two interesting features I think it is worth recording.

The patient, a female child, aged 11 years, who had always enjoyed robust health, had been "out of sorts" for two or three days. The morning on which I first saw her she had a rigor, and on examination her condition indicated a severe constitutional disturbance. The temperature was 103° F., the pulse was 120, the tongue was furred, and the breathing was quick. On inquiry the mother gave the information that the child did not complain of pain in any particular region and for a short time I was nonplussed to account for the constitutional disturbance. On further examination it was discovered that the child had a double talipes—i.e., right talipes equino-varus and left talipes equinus. Further, a puffiness located over the internal malleolus of the right leg was noticed. The veins were swollen, but the child did not cry out when the afflicted leg was being manipulated. I noticed that the vulva was inflamed and a purulent discharge was seen about the vulval orifice. The next morning (the second day) the general condition of the child was worse; the temperature was 104°, the breathing was rapid, and the usual symptoms which accompany pyrexia were present. On examining the afflicted leg it was noticed that the swelling had much increased, the whole of the shaft of the tibia being implicated up to the tubercle. The skin was becoming dusky red in colour, pitting on pressure, and the child now was in evident agony on the least handling. The nature of the case was fully explained to the parents and the necessity of an immediate operation having been fully laid before them they consented to its being carried out. Later in the morning my principal, the late Mr. D. E. Edwards of Llwynypia, and myself went to the house fully prepared to lay bare the whole shaft and to gouge parts of it away if thought necessary. The parents by this time had changed their minds and they absolutely refused treatment; therefore nothing was done. The condition of the patient went from bad to worse; on the third morning septic pleurisy supervened, and on the fourth pericarditis, and she died at 11 o'clock the same night.

The child, at any time of her existence, had not been treated for the talipes. I ascertained from the mother that the child was in the habit of falling about in walking and especially on trying to run. This undoubtedly accounts for the injury constituting one cause of the periostitis.

The point of interest of the case which appeals to me is whether one is justified in thinking that the entry of the virulent streptococci and staphylococci was through the vagina from this purulent discharge. The child had never had typhoid fever.

Blackwood, Mon.

A METHOD BY WHICH DEPOSITION OF MOISTURE ON THE LARYNGEAL MIRROR MAY BE PREVENTED WITHOUT THE AID OF HEAT.

BY WALKER DOWNIE, M.B., F.F.P.S. GLASG.,
LECTURER ON DISEASES OF THE THROAT AND NOSE, GLASGOW UNIVERSITY.

WHEN about to make a laryngoscopic examination by means of reflected light the laryngeal mirror is warmed before being passed into the mouth with the object of preventing condensation of moisture from the breath on its reflecting surface. When gas or oil is used as the illuminant the warming of the mirror by holding it over the flame is simple, very convenient, and eminently satisfactory for routine examination, and is quite devoid of risk so long as the examiner is careful to test the temperature of the mirror before passing it into the buccal cavity.

But if the mirror so warmed be retained for some time in the pharynx, as is frequently necessary during delicate intralaryngeal operations, it becomes cool, if not cold, and its

surface becomes dulled by deposition of moisture upon it and the image is blurred. And this is apt to occur when the operator requires to have the part which is being operated upon most clearly in sight. Again, when electric light is used as the source of illumination the mirror must be warmed by holding it before a fire, over a spirit-lamp, or placed in hot water. The first two methods are inconvenient and not always within reach and the last is deleterious to the mirror. All laryngologists are painfully aware of the rapid destruction of mirrors regularly heated by immersion in hot water. To overcome this difficulty several methods, such as smearing the mirror with glycerine, &c., have been tried, but all of them so interfered with the reflecting quality of the mirror that they proved useless in practice.

Lately, and somewhat by accident, I fell upon the following plan, and it has been so eminently successful that I desire to call the attention of laryngologists particularly to it. An ordinary laryngeal mirror is taken and after polishing it with a soft cloth the surface of the mirror is rubbed or pencilled over with "le crayon anti-buée." This dulls the surface. The mirror is again wiped or polished with a soft cloth and the surface will again be clear and bright. It may then be breathed upon without its brightness being affected. After being so prepared the mirror may be used for laryngoscopical examination, and it may be retained in contact with the palate or in any part of the buccal or pharyngeal cavities as long as may be desired, or, as is ever necessary, without the reflecting surface being affected in the slightest degree by the breath-borne moisture. The crayon causes no scratching of the glass nor does its use interfere with the cleansing and sterilising of the mirror. I do not employ this method to the exclusion of heat, as the latter is much too convenient to be lightly discarded, but this method of preserving a clear, bright, reflecting surface will be found of great service under the following circumstances—namely, (1) in an examination to be made with electric light; (2) where a prolonged use of the mirror is necessary; (3) in examinations made away from home; and (4) in the examination of children whose timidity is so often increased by seeing the mirror held over the flame of the lamp before being used. Dentists may also find the "crayon" to be useful, and the eye-piece of a microscope may be kept perfectly clear and bright, even during a prolonged examination in warm weather. The crayon may be obtained in Glasgow from Messrs. W. B. Hilliard, 63, Renfield-street.

Glasgow.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

TWO CASES OF GASTRIC SURGERY.

(Under the care of Mr. HERBERT W. ALLINGHAM.)

THE modern treatment of gastric ulcer is in striking contrast to that which was employed only a few years ago. A chronic ulcer of the stomach may reasonably be submitted to operation if it has materially interfered with digestion and nutrition, even though no hæmatemesis may be present. The first of the following two cases is an excellent example of this recent surgical advance. In the second case pyloroplasty was employed for a fibrous stenosis of the pylorus. This operation has been somewhat discredited lately, chiefly because it has been performed in unsuitable cases. Koeppelin's "submucous pyloroplasty,"[1] though perhaps safer than the ordinary operation, must be of more limited applicability.

CASE 1. *Excision of a gastric ulcer.*—A woman, aged 34 years, was admitted into St. George's Hospital on Oct. 29th with a history that for about eight years she had suffered from pain in the stomach after food. The pain, which was severe and prevented her from following her occupation, came on immediately after food, as a rule, but at times was not felt until from half to one hour had elapsed. She was unable to take solid food without vomiting, but hæmatemesis had only occurred once about seven years previously. She had never passed blood by the bowel, but was always very constipated. She was not emaciated. On examining the abdomen nothing abnormal was found except slight tenderness which was always present at one particular spot in the epigastrium. Seeing that the condition had existed for so long and had persisted in spite of medical treatment operation was advised. On Nov. 7th Mr. Allingham made an incision in the middle line above the umbilicus and opened the abdomen. The stomach was drawn out and on the anterior wall a puckered mass of thickened tissue of about the size of a shilling was found. It was covered with lymph and was slightly adherent to the surrounding parts. The peritoneum having been protected by means of sponges the ulcer and the tissues immediately around were excised and the wound in the stomach was sewn up by means of two rows of sutures, the mucous membrane being first brought together and then the muscular coats and the peritoneum. In the latter Lembert's method was employed and in both rows silk alone was used. The abdomen was then closed without drainage. Recovery was uneventful, the wound healing by first intention and the patient left the hospital on Nov. 30th, having taken solid food without pain or discomfort for 14 days before her discharge.

CASE 2. *Pyloroplasty for pyloric stenosis caused by nitric acid.*—A man, aged 37 years, was admitted into St. George's Hospital on August 28th, under the care of Dr. Latham, complaining of constant vomiting and pain after food, which had existed for seven weeks, during which time he had been unable to retain any solids. Whilst under observation the vomiting only occurred about once every two days and after a few days, during which time he was fed on peptonised food, it ceased altogether. He stated that he had vomited blood on one occasion on August 10th, but never since. On examination of the abdomen the stomach was found to be much dilated, and the abdominal muscles were rigid and moved but slightly on respiration and he complained of some tenderness in the epigastrium. After some days he volunteered the statement that he had swallowed a quantity of nitric acid on July 16th in mistake for ginger beer and had never been well since. He looked ill and was a good deal wasted, but improved somewhat under treatment—i.e., stomach lavage and careful feeding; the dilatation of the stomach, however, did not diminish, so on Sept. 24th Mr. Allingham operated. The stomach was washed out immediately before the operation and 70 ounces were drawn off. By the phloroglucin-vanillin test no free hydrochloric acid was found in the vomited material. The abdomen having been opened in the middle line above the umbilicus the stomach was drawn out of the wound. It was much dilated and the pylorus was thick and hard. There were no adhesions. A longitudinal incision was made over the pylorus and the lumen was only found by means of a probe. The tissues of the stomach at the pyloric end were exceedingly tough and fibrous. Pyloroplasty was performed in the ordinary way and the wound was sutured in two layers over one of Allingham's bone-bobbins. The patient made an uninterrupted recovery and was discharged from the hospital on Oct. 22nd, having been able to take solid food without pain, discomfort, or sickness for some days previously.

Remarks by Mr. C. R. KEYSER.—Case 1 serves to illustrate several points which are gradually becoming recognised. In the first place, in cases of gastric ulcer which have resisted medical treatment and in which the patient is rendered a chronic invalid, or vomiting and hæmatemesis are constant, operation should be undertaken much earlier than has hitherto been the custom. The complications of gastric ulcer are so numerous and dangerous that, according to recent statistics,[2] 25 per cent. of all cases treated medically terminate fatally, whereas the mortality of those surgically treated is only 5 per cent., and it is practically certain that if, instead of waiting until the patients are emaciated and worn out with suffering, operation was resorted to at a comparatively early date, the mortality would be reduced still further. The operation which will be necessary depends entirely on the condition found after opening the abdomen and examining the stomach, and may be either excision of

[1] Lyon Médical, Sept. 24th, 1899.

[2] Robson and Moynihan: Diseases of the Stomach, p. 110.

the ulcer, or pylorectomy, gastro-enterostomy, &c. The operation of gastro-enterostomy gives rest to the stomach and is, as a rule, a less severe measure than excision of the ulcer, which is therefore usually undertaken only when the patient is in good condition or when there is some doubt as to the innocence of the thickened and indurated tissues found at the time of operation.

Case 2 is an interesting one, especially as Mr. C. B. Keetley[3] has drawn attention to the subject of pyloric stenosis so recently. No reference has been made here to any respiratory troubles following the act of swallowing the acid because no history of any such symptoms could be elicited from the patient. The reason why the pylorus is alone affected in these cases is difficult of explanation, but it seems possible that the irritation induced by the acid causes a violent contraction and immediate peristalsis of the stomach starting from the cardiac end, the part which is first touched by fluids entering from the œsophagus. The effect of the peristalsis is to cause closure of the pylorus and, at the same time, to urge the gastric contents from left to right, so that the acid is in contact with the mucous membrane in the region of the pylorus for a much longer period of time than with any other. Nevertheless, it is strange that the acid does not cause ulceration of other parts of the stomach and of the œsophagus.

LEEDS GENERAL INFIRMARY.

A CASE OF INTUSSUSCEPTION; OPERATION; RECOVERY.

(Under the care of Mr. W. H. BROWN.)

THE most suitable treatment for irreducible intussusception cannot be said to be quite determined. Undoubtedly excision of the invagination with anastomosis of the two portions of bowel is theoretically the best, but a very large proportion of the children, on whom the operation has been performed, die. Attempts to establish an artificial anus or to short-circuit the invaginated bowel have been made, but the mortality cannot be said to be less from these methods, and, moreover, the intussusception remains unrelieved. On the whole, therefore, simple excision of the affected portion of bowel with union of the two ends is probably the safest measure though the death-rate from shock and exhaustion will always remain high in these cases. For the notes of the case we are indebted to Mr. W. O. Greenwood, house surgeon.

A child, aged four years, was admitted into the Leeds General Infirmary on Jan. 28th, 1902, with the usual symptoms of intussusception. The swelling could be felt stretching across the epigastrium; this was said to have existed for a month. As some attempts at reduction had been made before admission Mr. W. H. Brown decided to operate at once. Under ether the abdomen was opened in the middle line by an incision about three inches long above the umbilicus. The tumour was brought out of the abdomen and the intussusception was found to consist of cæcum and ascending colon invaginated into the transverse colon. The reduction was easily effected with the exception of the last inch, which consisted of the cæcum and the vermiform appendix. This was so firmly impacted that no reasonable manipulation produced any effect. An incision was therefore made round the invaginated portion and this was excised; the parts removed comprised the vermiform appendix together with a circular portion of the cæcum of about the size of a two-shilling piece. The edges of the bowel were closed with silk sutures. The abdominal wound was treated in the usual manner. The child made an uneventful recovery.

Remarks by Mr. BROWN.—I have had occasion to operate for the relief of intussusception upon many occasions, but this is the first time that I have been compelled to excise any portion of the intestine implicated. Had there been much distension or evidence of inflammation I should have made a fæcal fistula, for I hold very strongly the view that the right treatment for distended and inflamed intestine is to drain it and not to attempt immediate restoration of continuity. In the present instance these complications were absent and the child was fortunately spared the discomfort of a fæcal fistula.

ERRATUM.—In THE LANCET of Feb. 8th, p. 372, a case was reported in the Mirror of Hospital Practice which had been under the care of Dr. W. J. Collins at the London Temperance Hospital. In an editorial comment upon this case it was erroneously assumed that the duodenal ulcer, as well as the gastric ulcer, had perforated. As this was not so of course no idea of any secondary laparotomy could arise.

[3] THE LANCET, Nov. 16th, 1901, p. 1423.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Discussion on the Regeneration of Peripheral Nerves.

A MEETING of this society was held on Feb. 25th, Sir THOMAS BARLOW, Bart., being in the chair.

Mr. CHARLES A. BALLANCE and Dr. J. PURVES STEWART communicated a paper on the Regeneration of Peripheral Nerves. The fact had long been admitted that regeneration could occur in peripheral nerves if their opposing ends, previously divided, were brought into apposition. As to the process whereby this regeneration was accomplished, however, there had been two schools of opinion, which might be termed the "central" and "peripheral" respectively. According to the "central" school (supported by Renvier, Waller, His, Vanlair, Strœbe, Howell and Huber, and others), the new nerve-fibres which occurred in the distal segment of a reunited nerve-trunk were formed by a process of down-growth from the proximal segment, and threaded their way gradually along the neurilemma sheaths of the distal segment, already rendered empty by the degeneration of the old axis-cylinders and medullary sheaths. The new fibres were thereby guided ultimately to the periphery. The "peripheral" doctrine, hitherto a less popular one (amongst the chief supporters of which might be mentioned Tizzoni, Cattani, Bethe, Kennedy, and Galeotti and Levi), taught that the new nerve-fibres were formed locally in the distal segment from pre-existing elements there. This, in their opinion, was the correct view. If a peripheral nerve were cut across certain changes occurred in the lower part of the proximal segment and throughout the entire extent of the distal segment. These changes consisted of: (1) degeneration, and (2) regeneration. The two processes overlapped in point of time; regenerative changes commenced before degeneration was complete. Degenerative changes affected the lower end of the proximal segment and the whole extent of the distal segment. They occurred simultaneously in these parts and did not spread from the centre to the periphery or *vice versâ*. Changes in the axis-cylinders and medullary sheaths were next described. The changes of regeneration were then dealt with, firstly in the proximal segment of a divided nerve which had not been reunited. These consisted in the formation of the well-known so-called "end-bulb"—a dense, club-shaped swelling in which were numerous young nerve-fibres, coiled and intertwisted in all directions, embedded in fibrous tissue. According to the "central" theory of nerve regeneration these new fibres were to be regarded as outgrowths from the central end which, unable to find their way into the distal segment, had turned back on themselves in a futile manner like the apex of a fountain. This, however, was not so. Every new fibre of the permanent end-bulb was laid down in separate short links, each in apposition to a neurilemma cell, thickest near the nucleus of the cell and tailing off at each extremity. These short lengths of young nerve-fibres were at first separated by some distance from the ends of the central axis-cylinders. The end-bulb was not formed by a down-growth and recurving of axis-cylinders, but by the development of new fibres in a structure which Mr. Ballance and Dr. Stewart had named the "primitive end-bulb"—a mop-like protuberance which was formed immediately the nerve-trunk was divided, the result of the curling back upon themselves of the divided nerve-fibres. In the "primitive end-bulb" degeneration occurred as above described and was followed by regeneration whereby the proliferated neurilemma cells secreted small islands of axis-cylinders and medullary sheaths. These islands later overlapped in an imbricating fashion and ultimately fused together to form a long nerve-fibre continuous with one of the nerve-fibres of the proximal segment above. Secondly, in the distal segment of a divided nerve, reunited to the proximal segment by sutures, the proliferated neurilemma cells arranged themselves in longitudinal columns, separated

by strata of proliferated connective-tissue cells. The neurilemma cells had a neuroblastic function and proceeded to form new axis-cylinders and medullary sheaths. The new fibres in the distal segment had a longitudinal direction from the outset, whilst in the intermediate scar-tissue between the proximal and distal segments their direction was wildly irregular. But the mode of formation was the same in every case. Thirdly, in the distal segment of a divided nerve in which the cut ends had been left widely separated, according to the "central" theory, it being impossible for new fibres to reach the distal segment from the proximal, regeneration could not occur. But such was not the case. Regeneration could occur in the distal segment of a nerve even when widely separated from the proximal segment, and the process was exactly the same as that which occurred in a reunited distal segment. It commenced, however, at a later date (four or five weeks after division, instead of three weeks, as in a reunited nerve), and progressed more slowly. Moreover, the new fibres did not attain beyond the sinuous, beaded stage characteristic of incomplete maturity. If, however, such a distal segment, already partially regenerated, be sutured to the proximal segment the new fibres quickly attained to adult proportions, thus illustrating the common truth that physiological activity was necessary for anatomical perfection. Cases where the distal segment was in a condition of inflammatory sclerosis—such neuritis being usually of microbic origin—might exhibit great delay or even total inhibition of the regenerative process. The paper further dealt with nerve grafts, primary and secondary suture. The following subjects were suggested as a possible basis for discussion: (1) the mode of regeneration of peripheral nerve-tissue; (2) the absence of regeneration in the spinal cord and brain after injuries, and its association with the absence of neurilemma cells in the central nervous system; (3) the bearing of this on the neuron theory; (4) indications and contra-indications for operative interference; and (5) comparative advantages of various operations.

Dr. STEWART said that the facts above recorded had obviously an important bearing upon the views as to the architecture of the peripheral nervous system. For the last 11 years Waldeyer's neuron theory had practically held the field. According to this theory every axis-cylinder was a mere outgrowth from a nerve-cell, which outgrowth degenerated when cut off from the parent cell and could only regenerate by a process of down-growth from that cell. Regeneration ought, therefore, to be impossible in the distal segment of a divided nerve whose ends remained widely separated. He said that the neuron theory, so far, at any rate, as the peripheral nervous system was concerned, must be discarded. Finally, with regard to the clinical side of the question, if the views which had been maintained were correct then operative re-union of peripheral nerves ought to be attempted in almost every case. Operation might be contra-indicated, firstly, for anatomical reasons. Thus, for example, in a case of rupture of all the roots of the brachial plexus close to the vertebral column a surgeon might perhaps hesitate before diving down into a deep dissection at the root of the neck. Secondly, on account of the total loss of galvanic excitability in the paralysed muscles. Obviously it was not worth while re-uniting a motor nerve if there were no muscle-fibres left for it to innervate. But total disappearance of muscle-fibres in such cases was certainly less frequent than was commonly supposed. He had found some reaction to galvanism in the atrophied muscles in a case 16 years after division of the motor nerve.

Professor C. S. SHERRINGTON (Liverpool) said that the paper had suggested that a nerve-fibre was not a single nerve-cell process but a series of nerve-cells. He pointed out that in the central nervous system no regeneration of the fibres in the posterior column of the cord took place and yet they were but the direct continuation of a peripheral nerve. He referred to the fact that after excision of the posterior root ganglion in the lumbar region the root of the cauda equina 55 days after contained several well-marked fine fibres and he thought that these might be fibres which had regenerated. The electrical delay in the transmission of a current along the nerve supported the view that the nerve-fibre was made up of a series of cells which might act as electrical condensers. On the other hand, it was difficult to see why if the nerve was a series of cells it should degenerate when cut off from the nerve cell.

Dr. R. KENNEDY (Glasgow) said that these researches fully corroborated the results of his own investigations published by the Royal Society some five years ago. He referred to the view that the higher up a nerve was divided the longer was the time taken for the restoration of sensation. In his experience this had not been the case, and restoration of sensation had occurred as rapidly when the nerve was divided at one point as at another. The demonstration of newly-formed fibres in the peripheral segment which had been for some time totally separated from the central segment was first made by Philipeaux and Vulpian and had been confirmed by other observers. These young fibres, however, never attained maturity while unconnected with the central end, for the reason that they had remained without an opportunity of performing their function of the normal transmission of impulses from the nerve cell. Dr. Kennedy then referred to the healing of divided nerves and the restoration of the normal paths for the transmission of impulses. If the non-corresponding ends of nerve-fibres were brought into apposition and united the consequence was that the peripheral terminations became in connexion with centres in the central nervous system to whose innervation they did not by nature belong. To determine this question he divided the sciatic nerve in dogs and reunited it so that the fibres on the external aspect of the central end were in contact with those on the internal aspect of the peripheral end and *vice versâ*. The result was that function was completely restored and that as rapidly as in control animals in which the nerve had been divided and united as accurately as possible. A second series of experiments were then undertaken. The median, ulnar, and musculo-cutaneous nerves were divided above the elbow in dogs and the musculo-spiral was divided at the same point; the central end of the musculo-spiral was then attached by suture to the peripheral ends of the three nerves which supplied the flexor muscles and *vice versâ*. The result was that the animal in which these cross sutures were made regained coördination of movement perfectly. In these animals after coördinated function had been restored the condition of the cerebral cortical areas associated respectively with flexion and extension of the paw were examined by cortical stimulation and it was found that the relative positions of the two areas had become reversed. In conclusion, he referred to a case in which he had for facial spasm divided the facial nerve and united it to the spinal accessory, with the result that the face recovered its power of movement to a great extent, but that whenever the patient lifted the right arm a spasm of the face was produced.

Dr. R. A. FLEMING (Edinburgh) said that he was still an upholder of the "central" view of regeneration, and he did not see why it should not be compatible with the finding of new formed fibres in the distal segment of a divided nerve. He referred to some experiments which he had performed in which he had ligatured the sciatic nerve in two places, and he had been able to demonstrate axis-cylinders both in the part between the two ligatures and also in the peripheral part 18 weeks after the operation. He asked Mr. Ballance and Dr. Stewart what method of fixing they had adopted and in what medium the sections had been cut. He did not agree with their observations that the fine nerve-fibres degenerated more slowly than the larger fibres, but he thought, on the contrary, that they degenerated more rapidly. He considered that the neurilemma nuclei acted as trophic agents to the axis-cylinder which they protected. It was therefore not improbable that regeneration should take place from these cells.

Mr. W. THORBURN (Manchester) referred to the fact that so little confusion occurred after union of peripheral nerves. He mentioned a case in which there was severe damage to the brachial plexus. The distal and proximal end of the nerves were united, but it was impossible to unite each nerve to its corresponding trunk. No confusion in movements, however, resulted.

The meeting, on the motion of Dr. F. W. MOTT, was then adjourned.

MEDICAL SOCIETY OF LONDON.

Cardiac Pain.—Hypostatic Albuminuria of Splenic Origin.

A MEETING of this society was held on Feb. 24th, Dr. W. H. ALLCHIN, the President, being in the chair.

Dr. E. MARKHAM SKERRITT (Clifton) read a paper on Cardiac Pain. All pain was essentially conservative and protective, and heart pain tended to check strain that was a source of danger. Excluding from consideration the pain of acute disease and of neuralgia and neuritis, pain expressing

the overloading of the heart occurred in all degrees of intensity, there being no line of demarcation, clinical or pathological, between one extreme and the other. Heart pain due to the disturbance of the balance between power and work might occur (1) when the heart was normal but work was in excess; or (2) when the heart was diseased: (*a*) primarily in its valves, or (*b*) primarily in its walls. Pain in the normal heart from overwork might be induced by over-exertion, such as hard riding when "out of condition"; it was not pronounced and it quickly passed off with rest. It was also met with in "vaso-motor angina," a neurosis of the cardio-vascular system increasing the peripheral resistance to the circulation by causing spasmodic contraction of the vessels and hence painful embarrassment of the heart's action, in some cases increased by anæmia of the cardiac muscle due to coincident contraction of the coronary vessels. Vaso-motor angina occurred mostly in early adult life and about the climacteric period in women of neurotic type and in men from excess in alcohol or tobacco. It might be induced by cold, by exertion attended with excitement, and especially by emotional disturbance. Certain blood conditions, especially the presence of uric acid, the absorption of ptomaines from the bowel, and the action of some drugs of the digitalis class, increased the general blood-pressure and therefore made it easier for the contraction of the peripheral vessels to embarrass the heart. Fatigue of the heart as a muscle attended its action, and Dr. Gaskell had shown that fatigue of muscle produced a tendency to cramps and that accumulation of the products of muscle waste induced acidity which caused paralysis. The symptoms of vaso-motor angina came on suddenly, with acute pain and oppression at the heart, palpitation, and dyspnœa, the pulse being small and quick, usually with increased tension. The latter quickly relaxed and the patient passed into a restless condition. Sir R. Douglas Powell stated that marked angina of this type was not common and the prognosis was good. Dr. Skerritt had met with it in gouty cases and also at the climacteric period, but not in young adults; and in his experience the climacteric cases usually did badly, going on to permanent cardio-vascular changes. In the second class the element disturbing the balance between work and power was disease of the heart, which might occur primarily in the valves or in its walls. Valvular disease, as a whole, was not an important cause of angina. Authorities agreed that pain was most often met with in disease of the aortic orifice. In Dr. Skerritt's experience the valvular lesion in which anginal symptoms were met with in a marked form was aortic regurgitation; but other observers were not of the same opinion, the late Dr. Walsh, for example, holding that aortic stenosis was the chief valvular cause of pain. Aortic stenosis, however (which might occur in all degrees), was the valvular lesion in which compensation by hypertrophy was most complete, maintaining the balance between work and power in such a way that heart distress was least likely to arise; while in aortic regurgitation the conditions were such as to tax the ventricle severely, causing marked dilatation and hypertrophy, and later degeneration in the cardiac wall—conditions most calculated to produce distress and pain of the heart. Degenerative changes in the heart wall were of by far the greatest importance in the causation of angina pectoris. They were mostly secondary to narrowing of the coronary arteries by atheroma and calcification; and their effect was to weaken the heart as a muscle and to favour the occurrence of paralysis. When atheroma of the coronary arteries was marked the balance between heart-power and work was proportionately disturbed, so that the enfeebled organ could no longer carry on the work of the normal circulation without signs of distress. Much greater was this distress when the enfeebled heart was opposed by increased arterial tension, due to chronic renal disease or to the vascular degeneration of age. The type of cardiac action then indicated the danger which threatened; the notable feature of the pulse was its high tension; the short and toneless first sound was hurriedly followed by a ringing aortic sound, the ventricle being hardly able to hold its own until the strain was taken off by the closure of the aortic valves, and the patient plainly lived on the brink of a precipice. Various theories had been advanced as to the pathology of angina pectoris: that it was a neuralgia or a neuritis of the cardiac nerves and that it was due to the stretching of the nerves in the heart wall, and that it had its seat in the aorta and was caused by aortitis. Dr. Osler had drawn attention to the theory which Allan Burns advanced in 1809, that the condition was one of transient ischæmia of the heart muscle from disease or spasm of the coronary arteries. In "intermittent claudication," met with in the horse and also in man, transient paraplegia and spasm might follow exertion, owing to thrombosis of the abdominal aorta or the iliac arteries; the collateral circulation, ample when the limbs were at rest, being insufficient for active movement, relative ischæmia of muscle was induced with loss of power, which passed off with rest. A heart with calcified coronary arteries was in an analogous state and any extra exertion might cause ischæmia and spasm of the heart. Dr. Parkes Weber pointed out that the cramp pains and loss of power in muscle were both due to the accumulation of waste products and that they were more easily caused if the vascular supply was not enough to flush properly the muscle when in action; that the lymph fluid of all tissues at rest was alkaline; and that the activity of muscle was always accompanied by dilatation of its blood-vessels, brought about by the lessened alkalinity of the lymph fluid of the tissue during its activity, which relaxed their muscular coats. When the vessels were altered by disease the flushing of the tissues with blood while in action was interfered with, and hence the phenomena of paralysis and pain met with in angina pectoris. Time failed for the discussion of the treatment of cardiac pain except to point out that the balance between work and power might be restored (1) by increasing the power of the heart, or (2) by lessening its work. Practically the latter was usually the easier, and hence the diminution of vascular tension by means of the vaso-dilator remedies.—Dr. E. SYMES THOMPSON regretted that the paper had not dealt with the treatment of cardiac pain. He considered that functional disease more frequently gave rise to pain than organic lesions of the heart muscle or valves, and he thought that the heart was very liable to be put "out of gear" by emotional causes. In hysterical and hypochondriacal subjects the pain was often dependent upon causes which under other conditions of the individual gave rise to no pain.—Dr. A. E. SANSOM said that the word "functional" as applied to these affections of the heart should be discarded, as it was probable that all had some organic origin. The vaso-motor angina of Nothnagel gave rise rather to a sense of discomfort than to actual pain, and such conditions were the outcome of exertion. He considered that there were but few cases in which cardiac pain was persistent; the pain was due to dilatation of the right side of the heart, but the heart soon accommodated itself to its altered conditions and the pain passed off. He had seen great relief from cardiac pain obtained from regulated exercises. He said that the greater number of cases of cardiac pain were due to neuralgia and to neuritis which might be of gouty origin. These he designated the extrinsic causes. He had for many years considered that true angina pectoris was always associated with thickened arteries, but he had somewhat altered his views on this point, for he had found that cases occurred in which there were neither hypertrophy of the heart nor thickening of the vessels. In one such patient there was a condition of anuria and probably also a contraction of the arterioles of the heart. The lesion of the valves most commonly associated with angina was aortic regurgitation and not aortic stenosis, and in aortic regurgitation there was a moment of intense strain for a very limited period of time on the heart wall. In regard to treatment he considered that phenacetin and antipyrin were to be preferred to opiates. The use of vaso-dilators was as liable to abuse as were drugs with a sedative action. He had seen but little benefit from the use of nitrites.—Dr. F. DE HAVILLAND HALL related a case of a man between 50 and 60 years of age who had attacks of pain of the nature of angina pectoris accompanied by faintness. In this case nitro-glycerine did but little good, but the patient was benefited by a blue pill and a saline mixture. He continued to have attacks of pain for some years, but on one occasion he had a typical attack of hepatic colic, and from that time he suffered no more from the attacks of pain which had been considered anginal. He (Dr. Hall) thought that hepatic colic was not infrequently mistaken for angina pectoris.—The PRESIDENT said that it was a matter of great interest how far the pain was in the heart itself. In most cases in which there was disease of the heart the pain radiated over a considerable area and especially down the left arm. He pointed out that visceral disease gave rise to but little pain until the serous coat was affected. He thought that actual degeneration of the wall of the heart was

the most frequent cause of angina pectoris. He referred to the term "cramp" which had been used in explanation of the condition angina pectoris and considered that it was a term inapplicable to cardiac muscle as the heart muscle did not undergo such contraction.—Dr. A. MORISON said that the term "cramp" was a useful term to use in description of certain cardiac conditions. In some cases of angina pectoris which had terminated fatally a condition of fragmentation of the muscle had been found, and he considered that this might indicate rupture of the fibres during an attack. With regard to the localisation of pain, he thought that they might assume that it originated in the heart itself. He considered that attacks of angina pectoris were frequent in cases of aortic regurgitation, but they also occurred in cases of aortic stenosis, although this latter lesion was of rare occurrence. He suggested that the pain of angina pectoris might be due to irritation of the nerves which were so abundant around the aortic orifice.—Dr. F. PARKES WEBER said that both cardiac muscle and unstriped muscle underwent "cramp." He thought that localised cramp might take place in the heart just as localised cramp occurred in the muscles of the limbs. He pointed out that the tissue-effects of waste products were produced by an insufficient blood-supply to wash out these products.—Dr. W. PASTEUR thought that cardiac pain was an uncommon manifestation of heart disease, but that it most frequently occurred in cases of degeneration of the cardiac muscle.—Dr. H. D. ROLLESTON suggested that if a localised "cramp" occurred it might effect the musculi papillares. He agreed with the last speaker in considering that cases of acute cardiac pain were rare and were most frequently associated with aortic disease. With regard to angina in young people it was difficult to diagnose and he quoted the case of a young man who had attacks of pain which he considered to be functional. The man died suddenly and atheroma of the vessels at the base of the heart was found. He doubted if fragmentation of the cardiac muscle could be regarded as evidence of "cramp," for the contraction of rigor mortis was much more severe and might produce such fragmentation.—Dr. H. CAMPBELL POPE said that the pain of angina pectoris was not infrequently referred to the right side of the chest and also to the left axilla. He referred to a case of sudden death in which there was atheroma of the coronary vessels, but there had been no angina. He thought that tea was a frequent cause of attacks of cardiac pain.—Dr. SKERRITT replied.

Dr. ROLLESTON read a note on Hypostatic Albuminuria of Splenic Origin. The paper is published in full on page 585.—Dr. SANSOM said that "postural albuminuria" had been described by Tesier. He suggested that it was of importance to eliminate the possibility of the albuminuria being due to some other cause than the mechanical one of pressure of the spleen on the left renal vein, for the albuminuria might be of malarial origin. He did not consider "postural albuminuria" to be of serious import.—Dr. ALLCHIN doubted if the enlarged spleen could press on the left renal vein, but the point could easily be decided by post-mortem observation.—Dr. ROLLESTON, in reply, pointed out that had the albuminuria in his case been due to a malarial nephritis it was improbable that it would have disappeared with the change of position.

BRITISH GYNÆCOLOGICAL SOCIETY.

Exhibition of Instruments and Specimens.—Presidential Address.

A MEETING of this society was held on Feb. 14th, Dr. J. HALLIDAY CROOM, the President, being in the chair.

Dr. F. WINSON RAMSAY exhibited a series of perforated, hollow, metal Uterine Dilators. He maintained that their use was not attended by the piston-like action of otherwise similar dilators, and that their introduction was consequently much more easy and free from any risk of forcing any deleterious matter into the Fallopian tubes.

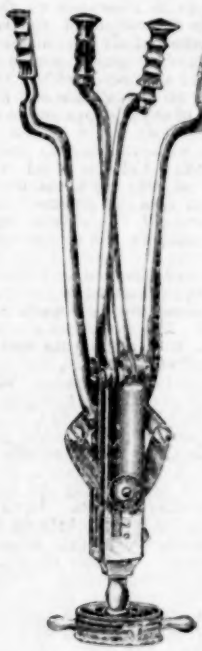
Mr. R. T. A. O'CALLAGHAN showed Submucous and Intraligamentary Myomata and a Cancerous Uterus, all of which had been removed by abdominal hysterectomy.

Dr. H. MACNAUGHTON-JONES exhibited the following:—1. Professor Bossi's Instrument for Rapid Dilatation of the Os and Cervix Uteri in cases of Eclampsia and Contracted Pelvis. He had seen it applied for the first time in October, 1901, when visiting Professor Leopold's clinic in Dresden. The illustrations (Figs. 1, 2, 3, and 4) show that the instrument has a special curve and that its branches or blades are grooved externally so as to prevent them from slipping in the cervical canal. By an arrangement of pivots the three branches, when the wheel handle is rotated, open simultaneously to an extent of ten centimetres, and the degree of separation is indicated on a quadrant. In the case in which Dr. Macnaughton-Jones saw Professor Leopold apply the dilator the pelvis was rachitic and had an internal conjugate diameter of seven centimetres, and there was a double promontory. In some 20 minutes the dilatation was sufficiently complete to admit

FIG. 1.

Dilator closed.

FIG. 2.



Dilator opened.

FIG. 4.

FIG. 3.

ARNOLD & SONS LONDON

Detachable guard.

Closed end of dilator, the guards being removed. This enables the operator to dilate the cervix to a given extent when the four grooved guards can be fixed on the ends.

of the perforation of the head and the application of the cephalotribe. The case was an exceptionally difficult one, but delivery was completed within another 20 minutes. In a number of cases reported by Professor Bossi, Dr. Giuseppe Zirolia, and Dr. G. de Paoli of the University of Genoa, dilatation to eight centimetres was effected within 20 minutes in cases of eclampsia, and delivery was then successfully completed by Simpson's forceps. The instrument had also been used in cases where dilatation by other methods for the induction of premature labour had failed. It was claimed for it that by its means rapid dilatation could be obtained within a period of from 15 to 30 or 35 minutes without interfering with the integrity of the cervix

or causing any injury to the presenting part. Before resorting to the use of the dilator the genitalia must be carefully disinfected, and during its application there must be complete narcosis.[1] 2. A complete Vertical Section of a Carcinomatous Uterus in the third month of pregnancy. The section, which was transparent, was that of a uterus removed in Professor Bumm's clinic in Halle. It had been treated with picric acid, alcohol, and colloidine, cut with a large microtome, and stained with carmine. 3. Professor Zweifel's new Broad Ligament Pressure Forceps for use in Vaginal and Abdominal Hysterectomy. 4. Some photographic card specimens of Ectopic Gestation, and specimens of Myoma with Deciduoma Malignum and Elephantiasis Vulvæ, taken in Professor Sänger's clinic in Prague.

The PRESIDENT then delivered his Inaugural Address. He pointed out the great advance that had been made in obstetrics since the beginning of the last century—an advance to be ascribed to the introduction of anæsthesia and antisepsis. Though no absolutely new instrument or operation had been devised, symphysiotomy had been revived, and unquestionably it had a future before it; the mortality from Cæsarean section was insignificant when compared with earlier results. Owing to improved knowledge of the mechanism of labour and the earlier recognition of pelvic deformities, operations involving the death of the fœtus might often be avoided by the use of axis traction forceps or by performing Cæsarean section before the patient had been exhausted by futile attempts at delivery. Eclampsia was the solitary exception in which little improvement had taken place in treatment. Indiscriminate removal of the ovaries for all sorts of inflammatory trouble had ceased, but surgical interference was perfectly justifiable in cases in which complete rest—mental, bodily, and sexual—was impossible, even though condition together with local measures might effect a cure, provided the preservation of the reproductive powers was not essential. Non-interference in ovarian tumours, pelvic suppurations, and extra-uterine pregnancy meant certain ill-health and almost certain death. In fibroid tumours the position was widely different; though pressure symptoms might render them dangerous they were rarely in themselves fatal. Rapidity in growth, recrudescence in later life, or degenerative changes were more important indications for interference than hæmorrhage. But a woman was not an appropriate subject for surgical interference merely because she had one or more fibroid tumours; operation for such might be expedient to add to her comfort, but it was seldom required for the saving of her life. Cancer of the uterus was enormously prevalent and was unhappily becoming more so. The vexed question of its etiology did not as yet affect the question of its surgical treatment, in regard to which the desiderata were early recognition and some efficient method of dealing with the lymphatic glands and vessels. No such method had yet been discovered, and in but few cases patients applied for treatment in hospitals in time for successful operation. So long as the uterus was of moderate size and fairly mobile, the bladder unaffected, and there was no evidence that the glands were involved, operation, especially when the disease was primary and limited to the fundus, was desirable, and vaginal hysterectomy was the most rapid and satisfactory method. But statistics had shown that when the disease was advanced life was not prolonged, neither was suffering alleviated, by operation, and interference should therefore be declined. On the whole, the results of the surgical treatment of uterine cancer were by no means brilliant, and it seemed possible, and even likely, that the triumph of successfully combating this foe would be medical rather than surgical, by the discovery and destruction of its exciting cause.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

The Treatment and Teaching of Incipient and Transient Mental Disorders in the Royal Infirmary of Edinburgh.

A SPECIAL meeting of this society was held on Feb 19th under the presidency of Professor T. R. FRASER to discuss "The Treatment and Teaching of Incipient and Transient Mental Disorders in the Royal Infirmary of Edinburgh." The meeting was a large and representative one, and most of the managers of the Royal Infirmary were present.

The PRESIDENT, in opening the discussion, said that there were two great problems to be faced: firstly, an accurate definition of those kinds of cases which could be most favourably treated in a hospital ward as contrasted with an asylum; and secondly, what accommodation would be required; how many cases could be so treated in this way and how far this could be carried out in the Royal Infirmary; to what extent could the financial resources of that institution be drawn upon; and how far such treatment would benefit patients or the general public.

Sir JOHN SIBBALD then read a paper, which he said had been written at the suggestion of Dr. T. S. Clouston and Dr. John Macpherson. The chief object was to elicit the views of the meeting in regard to what was deemed to be an important defect in the present arrangements for the treatment of mental disease and for giving clinical instruction in regard to it. He indicated that this defect might be best remedied by the establishment of wards in the Edinburgh Royal Infirmary for the treatment of incipient and transitory mental disorders. Little needed to be said to show that the wards proposed would be useful from the charitable point of view, as patients in the early stages of mental disorder were at present almost neglected; general hospitals or lunatic asylums were the only institutions into which such cases might be received, but cases of mental disorder were usually excluded from the former and the cases which he had in view had not arrived at the stage which made relegation to an asylum either necessary or justifiable. The considerations which seemed to show that hospital treatment in the Royal Infirmary would benefit such patients most might be summarised as follows: (1) in the treatment of this class of cases the special arrangements which distinguished asylums would not be essential; (2) everything which would suggest the idea of an asylum would be open to objection as tending to prevent patients and their friends from availing themselves of the benefits of these wards; (3) the wards would not differ appreciably from the wards of a general hospital; (4) it would be of the utmost importance that they should form part of an institution the purpose of which was recognised to be the cure of persons suffering from illness in order to stamp the wards with their true character in the eyes of the public; and (5) an out-patient department should, if possible, be attached to the wards, and such a department would be more resorted to by patients if it were connected with the infirmary than if it were connected with an institution devoted solely to the treatment of mental disease. It was necessary to bear in mind that it was not proposed that patients should be kept in these wards for long periods. Nor was it proposed that patients should be compulsorily detained in the wards, except in the sense that the wards of general hospitals sometimes were employed thus for patients suffering from ordinary diseases. The limitation of the period of residence was important for this reason amongst others—that it helped to define the character of the cases to be treated. Sir John Sibbald would be satisfied with a limit of six weeks. Before the end of that time, if death or recovery had not taken place, it would in most cases have become evident that asylum treatment was inevitable. In reference to the arrangements of wards the trend of medical opinion as to the treatment of mental disorders in the early stages must be kept in mind. An opinion had been steadily moving towards the adoption of methods resembling those employed in the treatment of bodily disease. The main indications for treatment, especially for the incipient and transient phases of mental disorder, whether characterised by melancholic depression, maniacal excitement, mental confusion, or stupor, were to obtain repose, to induce cessation of effort both mental and bodily, and to restore the nutritive processes to healthy action. Such treatment as that advocated by Weir Mitchell for neurasthenia was equally applicable to the early stages of mental disorders and ought to be regarded as an essential element in the cure of a majority of such cases. Consideration of the improved system of nursing could not be omitted. This had developed *pari passu* with the bed treatment. One result of this had been to modify, and in the

[1] **Sulla Dilatazione Meccanica Immediata del Collo dell' Utero nel Campo Ostetrico, Annali di Ostetricia e Ginecologia, 1900. Contributo allo Studio della scelta dell' intervento ginecologico nelle stenosi polviche. Dr. Giuseppe Zirolia, Assistente Clinica Ginecologica della Reale Universita di Genova, Ibid., Sept. 12th, 1901. Contributo alla scelta dell' intervento nei Casi Gravi di Eclampsia, Dr. G. de Paoli, Ibid.**

minds of many to revolutionise, their ideas of the structural requirements for the treatment of active mental disease. Seclusion rooms and single rooms of all kinds, formerly regarded as indispensable for the excited and restless, were now found to be required only in a few exceptional cases. Almost all cases of acute insanity could be more efficiently treated in associated dormitories than in single rooms. Another recent development had brought wards for mental diseases more into line with ordinary hospital wards—that was the introduction of nursing by women into the male wards of asylums. Sir John Sibbald attached great importance to the circumstance that it tended to foster the feeling amongst the patients that they were from first to last regarded as suffering from illness which required medical treatment. As regarded the defects which existed in the present clinical teaching, there were two. The first was that the seats of teaching at Morningside and at Larbert were too distant from the medical schools. To make the teaching really efficient it ought to be given in the immediate neighbourhood of the schools, and in Germany every university now had its psychiatrical clinique close to the medical school. The example set by Germany was being followed by the other continental nations, and the United Kingdom might now be said to stand alone in being without such provision. The other defect was even more important. The clinical teaching should supply knowledge which would be useful to the student when he entered on general practice. But at present the only clinical teaching was given in lunatic asylums and consequently the only patients whom the student saw were those whom the general practitioner was not called upon to treat. Under present arrangements the ordinary medical student received no clinical teaching as to the treatment of the incipient and the transitory phases of mental disease. It was in the treatment of these phases of mental disease that he would in after life find himself in the presence of one of his most serious responsibilities, and it was only by the establishment of such wards as were proposed that he could be duly equipped for the discharge of these responsibilities, and Sir John Sibbald concluded by strongly urging the provision of such wards.

The MASTER OF POLWARTH, Chairman of the General Board of Lunacy, said that it had been the policy of the Board of Lunacy to see that not only the bare legal requirements were carried out, but also to encourage every new experiment which seemed likely to benefit those affected by mental disease. From this point of view the proposed scheme had a very particular interest, and he earnestly hoped that steps would be taken to carry it out and to keep Scotland in the forefront.

Sir JOHN BATTY TUKE said that for the last 20 years he had tried on every available occasion to lay before the public the advantages to be gained by the hospital treatment of acute mental diseases in the general hospitals of the country. The proposed scheme would reduce the number of lunatics and would exercise a great educational influence. The rate-payer was burdened by having to provide for the wants of the chronic lunatic, while little or nothing was done for the acutely diseased; nothing was done to avert the manufacture of the chronic lunatic. If general paralytics and epileptics were excluded and if they treated cases in the earlier stages they would get 70 per cent. of recoveries. The increase in insanity was not amongst the upper classes, where early and efficient treatment was obtained, but in the lower classes which could not get this. This proposal would tend to break down popular misconception by treating general and mental disease in the same hospital and might in time also affect legislation, especially in England. As regarded education, a general asylum was the worst possible place to learn about mental diseases and the early treatment of such cases by the general practitioner was of the greatest importance. He urged upon the managers of the Edinburgh Royal Infirmary the extreme importance of entertaining such a scheme as that proposed.

Dr. J. O. AFFLECK said that his experience as an infirmary physician had shown that frequently patients were brought suffering from mental disorders, due, perhaps, in many cases to bodily disease, and such cases would, he thought, be more beneficially treated in hospital wards than in an asylum. He admitted that there were serious practical difficulties, but he thought that these could be overcome by the managers.

Dr. J. S. CLOUSTON said that during the last two years 900 cases had been admitted to Morningside Asylum, and of these 80 were discharged recovered within from six to eight weeks and about 160 within two and a half months. These cases could have been treated in the infirmary and many patients who could be treated there could complete their convalescence at home. He thought that the parish council might arrange with the managers of the Royal Infirmary to pay, say, £50 for each patient sent to such wards and in this way save the cost of building two of the blocks at the new asylum. The ward treatment of such incipient cases would prevent the rates being increased by the prevention of such cases becoming chronic. Such a scheme would afford the poorer classes similar advantages to those which the rich now possessed and would give them the same chances of recovery. It was part of the original design of the infirmary to treat mental disease.

After Dr. ALEXANDER BRUCE and Dr. URQUHART had spoken, Mr. J. CARSWELL, adviser in lunacy to the Glasgow Parish Council, said that in Glasgow they hoped to have the first psychiatrical clinique in Scotland. In connexion with one of the poorhouse hospitals a mental block was being built for 50 patients, where they would be treated on hospital lines. Of 212 patients admitted last year 28 were removed to asylums, 10 died, 167 were discharged recovered, and seven remained under treatment at the end of the year.

Dr. G. R. WILSON of Mavisbank, Dr. SLOAN, and Dr. H. M. CHURCH having spoken, Sir JOHN BATTY TUKE finally moved:—

That this meeting urges strongly on the managers of the Royal Infirmary the propriety of seriously considering the expediency of providing wards within or in the immediate vicinity of the institution for the treatment of incipient, transient, and recent cases of insanity.

The MASTER OF POLWARTH seconded this motion, which was adopted unanimously.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF OBSTETRICS.

Laparotomy for Ovarian Cystoma.—Induction of Labour followed by Enucleation of Tumour.

A MEETING of this section was held on Jan. 7th, Dr. W. J. SMYLY being in the chair.

Dr. ALFRED J. SMITH read notes on Laparotomy for an Ovarian Cystoma which had ruptured six hours before removal, the specimen being also shown. Ovarian cysts, he said, might spontaneously rupture into the peritoneal cavity or into some neighbouring organs. The effect on the patient, of course, depended on the character of such a cyst and of its contents. Innocent ovarian tumours generally produced only trifling symptoms, some pain and profuse diuresis being the chief disturbance. Dr. Smith's case, however, showed that grave symptoms and profound shock might follow spontaneous rupture of a common multilocular glandular cystoma. In the result the patient made a good recovery.—Dr. SMYLY stated that he had found rupture of ovarian cysts to be caused by tapping, particularly if the operation had been repeated. In one case, after laparotomy had been performed, the contents of the cystoma escaped into the peritoneal cavity, and so much time was occupied by wiping the matter from the coils of intestines that the patient collapsed. Massage might also cause the rupture of such tumours. He had seen the daily practice of massage diminish an ovarian cystoma to the vanishing point—the tumour had been ruptured and its contents rubbed out of the sac. Even gentle palpation had caused rupture. In the Adelaide Hospital, whilst a tumour was being very carefully palpated it burst and he at once performed laparotomy. He found a malignant cystic tumour which he removed; the patient recovered from the operation well, but the disease recurred some months afterwards.

Dr. F. W. KIDD read notes on a case of Induction of Labour followed by Enucleation of a Fibroid Tumour in the Cervix. He had seen the patient when she was a little over four months pregnant and he thought that it would be quite possible to deliver her without operating provided—(1) that the tumour did not enlarge during further gestation; (2) that she came to Dublin again three months later; and (3) that he was successful in inducing labour. She returned at the appointed time, and as she had a large roomy pelvis and vagina it was resolved to induce labour and to attempt delivery. Labour was brought on by the introduction of a bougie between the membranes and the uterus. When she had been about 34 hours in

labour the os was dilated sufficiently to enable two fingers to pass easily through it. She was then examined with the whole hand in the vagina under an anæsthetic; it was found that the tumour had invaded more tissue than was at first realised, so that the cervix could not possibly dilate sufficiently. Enucleation was done the same day under chloroform, the cavity left by the tumour being partly stitched and then packed with iodoform gauze. About seven hours after the operation all uterine pains and contractions ceased, having lasted between 40 and 48 hours, and did not return for 10 days, the os in the meantime closing very quickly, so that a finger could not be introduced. Owing to the packing of the cavity (where the tumours had been) being left off too soon it filled again with blood-clot and the discharge from it became distinctly fœtid; this occasioned renewed packing and washing out. About 12 hours after the baby was born the patient had a severe rigor and her temperature went up to 106·4° F.; this came down gradually in two or three days, the uterus remaining well contracted and free from pain, the lochia remaining of good quantity and colour and free from any taint. She suckled her child and went home to the country with it well within a month of its birth. Dr. Kidd said that he would never undertake such an operation except in a properly equipped hospital, whether private or public, and he would attempt the enucleation before resorting to the induction of labour.—Dr. SMYLY said that tumours of the cervix were very uncommon.

Various specimens were shown by Mr. A. J. HORNE, Dr. R. D. PUREFOY, and others.

LARYNGOLOGICAL SOCIETY OF LONDON.—A meeting of this society was held on Feb. 7th, Mr. E. Cresswell Baber, the President, being in the chair.—Mr. R. Lake showed a case of Tuberculosis of the Larynx which had been previously under treatment in 1898. The patient had returned three weeks ago with the thyroid cartilage enormously thickened externally and rather hard. Internally there was a conical projection forwards of the right ventricular band. The opinion of the society was invited as to the nature of the thyroid swelling.—Dr. J. Dundas Grant considered it to be a case of tuberculous perichondritis and he advised that the swelling should be opened and explored.—Mr. L. A. Lawrence showed a case of Rhinorrhœa of some years' duration in a woman, aged 36 years. There were deflection of the septum to the right and polypoid degeneration of both middle turbinals. The rhinorrhœa was absent only when the patient had a cold. Both local and internal treatment had been adopted for some time without avail.—Several members suggested that in this particular case the proper treatment would be to remove the polypi and possibly the anterior end of the middle turbinals.—Mr. F. G. Harvey showed a case of Lupus Nasi of many years' duration in a man.—Dr. H. Lambert Lack showed a case of Partial Membranous Occlusion of the Right Posterior Choana. There existed, also, a perforation of the cartilaginous septum.—The President and others pointed out that the membrane passed upwards from the Eustachian cushion and was posterior to the choana and they considered it to be the result of cicatricial adhesions. The origin of the scarring was attributed by some to congenital syphilis and by others to adenoids.—Dr. Lack also showed a case of marked Chronic Œdema of the Right Arytenoid region in a man, aged 40 years, who had been under anti-syphilitic treatment for three months without benefit. The case was brought forward for diagnosis.—Mr. W. G. Spencer excluded malignant disease and concluded that the case was probably syphilitic.—Dr. StClair Thomson suggested that the case might eventually prove to be tuberculous.—Dr. Atwood Thorne showed a case of Syphilitic Ulceration of the Soft Palate occurring during a course of anti-syphilitic treatment. The patient was a man, aged 23 years, who contracted syphilis in May, 1901, and had been continuously treated with mercury and iodide of potassium for eight months. His general health was very bad. In spite of treatment the uvula and part of the soft palate had been destroyed and ulceration had occurred on the posterior wall of the pharynx.—Opinion was divided as to whether it was syphilis alone or a mixed case of syphilis and tubercle.—Dr. Thorne stated that there was distinct evidence of phthisis on physical examination, but no bacilli had been found in the sputum.—Dr. H. J. Davis showed (1) a case of Tertiary Syphilis of the Pharynx and Larynx in which the voice was produced by means of the ventricular bands; and (2) a case of Laryngeal Tuberculosis with Granulation Tissue between the Cords.—Mr. E. B. Waggett showed a case of Myeloma of the Nose in a woman, aged 30 years. There had been rapidly increasing nasal obstruction since June, 1901, with frequent epistaxis. Rouge's operation was performed and a large tumour was removed. Healing within the nose was rapid and the process was accompanied by so marked a diminution in the size of the cavity that Mr. Waggett asked whether this might be due to recurrence of the growth. It was thought that at present there were no definite signs of recurrence.—Dr. L. H. Pegler showed a case of Abeyance of Nasal Breathing in a female, aged 23 years, in whom the nasal passages were free. The patient also suffered from hysterical aphonia and rhinalgia. The patient's speech though aphonic was "clipped"—a defect known as "rhinolalia clausa." Dr. Pegler thought that both the nasal breathing and resonance were shut off by a spasmodic contraction of the soft palate and with this opinion Dr. Scanes Spicer agreed.—Dr. Pegler also showed a case of Abeyance of Nasal Breathing in which the nasal passages were free and the palate and fauces were hyperæsthetic. In this case also the patient had difficulties in pronouncing the letters *m* and *n*. Dr. Pegler had closed the patient's mouth with his hand, in spite of which she refused to breathe until cyanosis had set in, but finally she respired through the nose. Suspecting palatal spasm, he had fixed the palate by means of a tape passed through the nose and out of the mouth and the patient had been thus enabled to breathe comfortably through the nose with closed mouth.—Dr. F. W. Bennett reported that in the case of progressive ulceration of the nose which he had shown at the last meeting he had explored the maxillary antra but had found no pus.—Mr. Hunter F. Tod showed a case of Œdema of the Larynx with thickening of the Palate, Uvula, and Fauces for diagnosis occurring in a boy, aged 10 years. There were no signs of pulmonary phthisis and no evidences of syphilis. Mr. Tod was supported by the opinions of the members present in his belief that the diagnosis lay between tuberculous laryngitis and congenital syphilis.—Mr. Waggett showed a case of Ethmoidal Suppuration in a man who complained of excessive pain. The patient had been under treatment for many years, and though the intra-nasal condition was now satisfactory pain persisted. Mr. Waggett suggested that the pain was of neurotic origin, and with this opinion the members agreed.—Dr. Grant showed (1) a case of Subjective Nasal Obstruction which he considered to be due to anæsthesia of the nasal mucous membrane; and (2) some Glass Tubes specially constructed for the Inhalation of Medicinal Powders for the patient's own use.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Feb. 5th, Dr. E. C. Kingdon, the President, being in the chair.—Dr. J. Vincent Shaw (Ilkeston) read notes on a case of Lymphadenoma (?) and showed the patient who was a man, aged 33 years. He had been in good health until two years ago when he developed enlarged glands in the neck which grew rapidly and recurred after removal.—The case was discussed by the President, Mr. W. M. Willis, Mr. R. G. Hogarth, Dr. W. Hunter, Mr. J. Mackie, and Dr. W. E. Tresidder.—Dr. H. Handford showed a case of Hereditary Diabetes in a boy, aged 12 years, whose grandfather, father, paternal uncle and aunt had suffered from diabetes. Under regulated diet and opium the sugar very rapidly disappeared and the quantity of urine became normal. Two or three baked potatoes were taken daily with benefit, but on repeated occasions one ounce of toasted bread at once caused the reappearance of sugar.—Dr. Handford also read a short paper on the Value of Exercise in Heart Diseases. Exercise, he said, did good rather than harm if the pulse did not remain quickened after two or three hours' rest, if the taking of food was not impaired, or sleep disturbed, and if no undue fatigue remained next day. In many forms of heart disease, especially non-progressive valvular lesions in young persons with full compensation, exercises such as walking, riding, swimming, cricket, and cycling could be practised with moderation to the advantage of the patient. Cases were instanced in which considerable physical exertion had been taken for years with no apparent ill result.—The President, Dr. C. H. Cattle, Mr. Hogarth, and Dr. F. R. Mutch discussed the subject.—Dr. Cattle related the case of a woman who, at the age of 47 years, began to suffer from paroxysmal cardiac pain (angina pectoris) on exertion. Considering her age, sex, and a certain amount of neurotic

tendency, the disease was diagnosed as purely vaso-motor in origin. Within a year, however, a faint but distinct double aortic murmur was detected. The aortic regurgitation was never very great, as the left ventricle showed hardly any enlargement, nor was the pulse collapsing. The pulse tracing showed an anacrotic wave. The angina was much improved by rest and treatment, but the patient was never free from dyspeptic symptoms and persistent neuralgia of the right side of the head. Death occurred from heart failure five years from the onset of the symptoms. It was thought that there was sclerotic thickening of the aortic valves and orifices of the coronary arteries—probably of a syphilitic nature. Allusion was made to "pseudo-angina pectoris," an affection generally affecting women and showing itself before middle life and not as a rule fatal. The cases in which no coarse cardiac lesion could be detected often were, however, more grave than those in which there was obvious cardiac disease, for angina pectoris might be the only symptom of a serious condition, such as progressive occlusion of the coronary arteries.—The President, Dr. Handford, Dr. Tresidder, and Dr. F. H. Jacob discussed the subject.

CARDIFF MEDICAL SOCIETY. — The ordinary monthly meeting of this society was held in the lecture room of the Cardiff and County Public Health Laboratory on Feb. 6th, Dr. A. P. Fiddian being in the chair.—Mr. W. Hughes, the medical superintendent of the *Hawadryad* hospital ship, showed two cases of beri-beri from the "ship," and described the appearances, which were of the characteristic type. There were four cases in all at the *Hawadryad*.—Dr. E. Walford said that the cases arrived in the Norwegian barque *Collingwood*, which voyaged from Capetown to Rangoon, and thence to Queenstown and Cardiff. The disease appeared about six weeks after leaving Rangoon. It was suggested that it was due to shutting ports and heating the forecastle when the ship got into colder climates. The symptoms very much resembled those produced by arsenical poisoning. Arsenic had been found in the intestinal organs in some cases.—Dr. Swale Vincent suggested that the blood should be tested for cholin, set free by the degeneration of the nervous tissues.—Dr. W. G. Savage stated that his examination of the ship's provisions for arsenic had given a negative result.—Mr. W. B. C. Treasure described two cases which he had seen on a Chinese ship two months previously, in each of which the leading symptom was œdema.—Dr. Savage read a paper on the Value of the Leucocyte Count and the Method of their Enumeration. He gave a brief account of the number and varieties of the leucocytes in health and disease and pointed out how their examination and the determination of the relative proportions of the different varieties were of great value in diagnosis and in prognosis. The conditions leading to an increase of white corpuscles in the blood were considered and the clinical significance of the leucocyte changes was insisted on. For the enumeration of the leucocytes the method advocated was Stengel's, somewhat modified, by means of which the red and white corpuscles could be counted in the same blood preparation. Full details were given.—Dr. Savage then read a paper entitled "Notes on the Serum Reaction of Typhoid Fever." The nature of the reaction was explained and the method of production of the agglutinating substances was touched upon. The microscopic and sedimentation methods of performing the reaction were demonstrated and the chief practical considerations, such as when the reaction first develops, its trustworthiness, possible fallacies, and causes of error, were explained.—A discussion followed each of these papers.—The meeting then adjourned to the bacteriological laboratory where an interesting exhibition of bacteriological, microscopical, and pathological specimens, arranged by Dr. Mitchell Stevens and Dr. Savage, was inspected.

PLAISTOW AND CANNING TOWN MEDICAL SOCIETY.—A meeting of this society was held on Feb. 12th.—The Annual Report, which showed the steady and continued progress of the society, was read and passed.—Dr. T. D. Lister read a paper on Some Disorders of Adolescence in Women. He referred briefly to the physiology of growth and development in the woman and gave a list of the ailments which were most commonly found at this age. Speaking of chlorosis and the secondary anæmias, he urged the importance of differentiating them. He drew attention to the anæmia of overcrowding, both in dwellings and employments. Anæmia was frequently due to an excess of developmental energy beyond the hæmogenetic power of the patient. In the use of drugs iron was essential, and he considered that cow's milk was a very valuable restorative and stimulus to cell changes on account of its earthy salts, apart from its action as a food. He ascribed no value to alcoholic drinks containing traces of iron, nor any advantage to organic compounds of iron, which were in his opinion inferior to properly selected iron salts. In heart disease symptoms and not physical signs were the indications for treatment. Hysterical patients were often spoilt children. In neurasthenia, which was often akin to developmental anæmia, nerve stimulants should be avoided. Constipation was most often due to neglect and the abuse of purgatives was condemned. Dyspepsia was chiefly hyperacid or atonic. Hæmatemesis arose from vascular malnutrition in chlorosis as well as from gastric ulcer.—A short discussion followed.—Various patients were shown by Mr. Jordan Harvey and Dr. E. Hay.—The following gentlemen were elected office-bearers for the year:—President: Mr. Percy Rose. Vice-President: Mr. H. S. Beadles. Honorary treasurer: Dr. W. C. Taylor. Honorary secretaries: Dr. E. P. McLoughlin and Dr. Hay.

GLASGOW SOUTHERN MEDICAL SOCIETY.—A meeting of this society was held on Feb. 20th, Dr. John Stewart, the President, being in the chair.—Dr. E. A. Gibson read a paper on Notes of Three Cases of Abdominal Section and showed Specimens. The cases were (1) an interstitial fibroid; (2) a large fibroid with accessory growths; and (3) dilated and hypertrophied Fallopian tubes. In the course of his notes on these three cases Dr. Gibson emphasised the following points as worthy of special mention. All the cases happened in unmarried women; in each the onset was sudden, with symptoms pointing to obstruction and retention of urine and absence in each of hæmorrhage notwithstanding the large size of the uterine cavity.—Dr. Andrew Wilson read a note on the Prevention and Treatment of Conjunctivitis in the New-born. In introducing the subject Dr. Wilson briefly reviewed the history of the disease and referred to the detection of the gonococcus by staining with methylene-blue. He detailed in a thorough manner the steps to be followed in the way of prophylaxis. The disease having been acquired the most important point in the treatment was the thorough cleansing of the eyes every hour, a matter of more moment than the use of any special antiseptic or astringent. If under daily direct medical supervision he recommended the daily application of 20 per cent. solution of protargol, but if the patient was seen at the dispensary he gave a 10 per cent. solution to be dropped into the eyes by the mother three times daily. He thought that protargol had greater penetrating power than nitrate of silver and did not stain the lids even when used continuously. Dr. Wilson also indicated the importance of notification of such cases of disease of the eye, recommending it as a practical measure of which a modified form obtains in Germany.—Both papers gave rise to interesting discussions and at the close Dr. Gibson and Dr. Wilson received the thanks of the society for their contributions.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held on Feb. 6th, Professor D. MacEwan, the President, being in the chair.—The President showed a girl on whom he had performed Astragalectomy for neglected Talipes Equinus with good results. He also gave details of a case of Extroversion of the Bladder which he had treated with lateral flaps with the result that the upper opening formed above the flaps was now practically closed. The bladder now had an anterior wall and the urine was escaping through an opening at the lower part.—Professor A. M. Stalker read notes of two cases showing Peculiar Mental Symptoms of Sudden Onset—loss of memory followed by coma, terminating in recovery, but with absolute inability to recall anything since the onset of the attack. He was inclined to the view that these and similar instances which he had seen arose from toxæmia. There was in neither of these cases any history of accident or any albuminuria.—Dr. A. R. Urquhart (Perth) referred to the medico-legal aspect of such cases and mentioned two cases of imposture resembling these. He was of opinion that one of Professor Stalker's cases might have been due to premature senility.—Dr. Urquhart then read a paper on Status Epilepticus, in which he stated that during 20 years at Murray's Asylum, Perth, out of 800 cases there had only been five deaths from epilepsy and only three which could be considered to be true cases of status epilepticus. One of the patients was found after death to

have a stricture of the colon, which supported the toxæmic theory of insanity. He considered venesection to be of value in some cases. Hyoscine and morphia were not without danger and bromides only controlled the fits.—Dr. R. C. Buist, Dr. C. Kerr, and Professor Stalker discussed the paper.

BRISTOL MEDICO-CHIRURGICAL SOCIETY.—The fifth meeting of the session was held on Feb. 12th, Dr. Barclay J. Baron being in the chair.—Dr. A. Ogilvy showed a patient with Double Macular Coloboma with persistent hyaloid arteries.—Dr. C. H. Walker spoke on the condition.—Dr. G. Parker showed a patient suffering from Chromidrosis.—Dr. P. W. Williams, Dr. H. E. Stack, and Dr. Ogilvy mentioned similar cases.—Dr. J. Odery Symes showed two brothers suffering from Idiopathic Muscular Atrophy.—Mr. W. H. Harsant showed a specimen of Abscess of the Cerebellum following Otitic Disease.—Mr. J. Paul Bush, C.M.G., Dr. H. Waldo, Dr. F. H. Edgeworth, and Dr. J. L. Firth discussed the specimen.—Mr. Bush showed a Gangrenous Ovary and Tube (due to torsion) that he had successfully removed from the sac of an inguinal hernia.—Mr. W. Roger Williams and Dr. W. C. Swayne spoke on the subject.—Dr. Parker showed a Tumour of the Brain from a patient who had suffered from ear disease.—Mr. Harsant, Dr. Firth, and Dr. Williams commented on the specimen.—Dr. E. W. H. Groves read a paper on Fibroid of the Uterus removed two years after Double Ovariotomy. The specimen was shown.—Dr. Swayne, Mr. Williams, Mr. Bush, and Dr. W. K. Wills remarked on the case.—Dr. B. M. H. Rogers read a paper on a case of Cirrhosis of the Liver in a child which he considered was due to beer-drinking. The specimen was shown.—Dr. T. Fisher, Dr. Stack, Dr. Waldo, Mr. Bush, Mr. Harsant, Dr. Firth, and Mr. J. Handcocke Wathen discussed the paper.

KIDDERMINSTER MEDICAL SOCIETY.—A meeting of this society was held on Feb. 7th, Mr. J. Lionel Stretton, the President, being in the chair.—The President showed: (1) A woman, aged 22 years, whose Elbow-joint he had Excised for Tuberculous Disease five years ago; (2) a girl, aged 22 years, whose Eleventh and Twelfth Ribs approached the Linea Semilunaris on Each Side; (3) a Malignant Kidney removed through the loin from a woman, aged 51 years; (4) the Head of a Femur removed by Amputation at the Hip-joint for Tuberculous Disease, from a lad, aged 17 years; and (5) a Malignant Mass in the Mesentery, with 12 inches of Intestine attached, removed from a man, aged 68 years.—Mr. W. H. Moore showed: (1) A Uterus which he had removed by the Intra-vaginal Method for Malignant Disease, the patient making a good recovery; (2) a Uterus showing Perforation through the Anterior Wall, the result of an attempt that had been made to produce abortion, death following from suppurative peritonitis; and (3) an Extra-uterine Fœtation showing Fœtus and Ruptured Tube.—Dr. O. C. P. Evans showed a girl, aged 15 years, upon whom he had operated for Cancrum Oris by splitting the cheek and scraping away the disease. She made a good recovery and there was likely to be little disfigurement.—Mr. A. C. Oldham read a paper on Rheumatism and a discussion followed.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on Feb. 21st, Dr. Arthur T. Davies, the President, being in the chair.—Mr. T. C. Goodchild showed a man who suffered from three attacks of severe Pain in the Right Iliac Region accompanied by the passing of copious coffee-coloured stools. Relapsing colitis was diagnosed as the cause of the symptoms.—The President showed a specimen of Left Cerebellar Hæmorrhage from a man, aged 63 years, who died in four hours from the initial symptom, headache. The left face and right extremities were paralysed. In a previous paper the President had pointed out that hæmorrhage occurred in the left cerebellar lobe in 33 out of 46 cases that he had collected.—Dr. Alexander Morison read a paper on Cardiac Inadequacy due to a disproportion in muscle bulk to the pumping needs of the organism. The paper was based on two carefully recorded cases of obvious heart failure in (1) an ex-policeman and (2) an ex-soldier. The hearts were found after death to be below the average size and weight and to contain an excess of intermuscular fibrous tissue. Lantern slides were shown to illustrate the heart failure by the sphygmogram and the fibrous overgrowth of the heart.

BIRKENHEAD MEDICAL SOCIETY.—A meeting of this society was held on Feb. 14th, Dr. J. Pinkerton, the President, being in the chair.—Dr. A. C. Ransome read a short note on the question of the Voluntary Notification of Phthisis. He considered that it was the duty of the medical profession to endeavour to prevent disease and not to wait for its occurrence before taking action. As phthisis was an infectious disease he advised that voluntary notification should be adopted. If this were done the houses of poor phthisical patients might be put into a more sanitary condition by the health authorities, and so the conditions under which the patients had to live would be improved. Voluntary notification had been adopted in Liverpool and Manchester with good results.—The President, Mr. F. Vacher, Mr. S. H. N. Harrington, Dr. J. H. Dixon, Dr. W. R. Floyd, and Dr. E. H. Brien spoke in the discussion which followed.—A discussion, adjourned from a previous meeting, on Motor-cars for Medical Men followed.—Mr. Wilkinson, in speaking of petrol cars, advocated them for the case with which they could be got ready for taking out and also for the fact that they were much cheaper to run than steam cars.—Dr. Brien favoured steam cars, but admitted that they were more expensive in use than petrol cars.

Reviews and Notices of Books.

Pathologie und Therapie der Herzneurosen und der Functionellen Kreislaufstorungen. (*Pathology and Treatment of the Neuroses and Functional Derangements of the Heart.*) Von Dr. AUGUST HOFFMANN in Düsselfdorf. Wiesbaden: J. F. Bergmann. 1901. 8vo, pp. 367. Price 7*s.* 9*d.*

DR. HOFFMANN divides his subject into a general and a special part. In the former he discusses from a general standpoint the symptomatology of functional cardiac disease, the auscultatory and percussion signs, the relation of functional to organic disease, and the prognosis and treatment, in addition to the physiological and anatomical facts necessary to a proper understanding of the subject. The symptoms include those due to motor and sensory disturbances in the heart. Pain referred to the heart falls under the sensory group and here an interesting description will be found of pseudo-angina pectoris. It is to be distinguished, according to the author, from the genuine angina by its occurrence after psychical excitement but never after bodily exertion. The attack takes place during the waking state and not during sleep unless dreams be the cause of it. In the false form the patient is excited and cries out, and the attack may end in laughing or crying, whereas the mental condition in the true angina is one of silent and often intense anguish. The actual cause of pseudo-angina pectoris may lie in a spasm of the arteries of the heart. Among the motor symptoms alterations in the cardiac rhythm come under consideration. An elaborate and extensive table after Larcena of the causes of tachycardia will be found here. Some have divided bradycardia into a temporary and a permanent form, but this division does not commend itself to the author, since attacks of temporary bradycardia consist in the great majority of cases of merely an aggravation in attacks of a bradycardia permanently present. Something more might have been added to the discussion of bradycardia from the point of view of prognosis. The subject of arhythmia is fully dealt with, including its mode of production. Allorhythmia is to be distinguished from arhythmia, since in the former the departure from the normal rhythm follows in a regular sequence, as in pulsus bigeminus, alternans, and paradoxus.

Dr. Hoffmann quotes M. Huchard's opinion that attacks of arhythmia beginning and ending suddenly are characteristic of arterio-sclerosis. If this is so it would seem very probable that an actual alteration in the myocardium really lies at the bottom of these attacks, and this illustrates the difficulty that may exist in drawing the line between functional and organic disease. This latter subject is dwelt upon by the author in the next section, and he naturally lays much stress on the fact that organic disease must be as

far as possible rigidly excluded before the diagnosis of functional cardiac disease is made. It must be borne in mind that the most important signs of organic disease of the heart may be found in other organs. Dilatation and hypertrophy of the heart may follow upon purely functional disease and so change the nature of the case into one of organic disease. On the other hand, functional disturbance may supervene upon organic disease and may thus considerably aggravate the patient's condition.

In the account of the Management of cases of Functional Disease of the Heart the author says that the prophylaxis or avoidance of possible causes of the disease must be attended to. Sanatorium treatment is often to be recommended. Exercise-treatment, gymnastics, and massage are sometimes valuable, but they must not be overdone. The personal influence of the medical attendant is important. Digitalis is suitable in a few cases; Nauheim should be avoided in cases presenting excitement. Health resorts more than 1000 metres above the sea and seaside places are not to be recommended.

The second or special part of the work begins with an account of the Functional Disturbances involving the Heart Muscle itself and Acute Dilatation. They are largely due to overstrain and present the symptoms of slight cardiac dilatation. The effects upon the heart of such agents as tobacco, coffee, tea, and the like in excess are next described. In the slighter forms of tobacco intoxication the heart may drop a beat and the intermission produce in the patient a most unpleasant sensation; in the more severe cases attacks may occur resembling angina pectoris. In the section on Functional Derangements of the Heart in the Acute Illnesses a word of caution is uttered as regards the use of antipyretic drugs, and the value of the application of cold, including baths and packs, in stimulating the heart is noted.

In the description of Functional Cardiac Affections occurring in Various Diseases hardly adequate space is given under Anæmia to the differential diagnosis of the functional murmurs, for occasionally considerable difficulty may arise in excluding organic disease of the heart in some cases of anæmia. There is an interesting chapter on Organic Disease of the Extracardial Nerves. The urgent symptoms sometimes met with in acute diseases like diphtheria and due to the involvement of the vagus nerves are discussed here. Dr. Hoffmann describes at some length neurasthenia of the heart, the symptoms of which he divides into irritative and paralytic. There may be abnormal sensations in the cardiac region and the pulse may become frequent and even irregular. The diagnosis is said not to be difficult, at any rate when the patient is obviously neurasthenical. In a paragraph on Megrim a case is related in which an attack of tachycardia took the place of an ordinary attack of megrim. In the neuroses following injury the symptoms are said to resemble those of neurasthenia of the heart. The author seems disposed to attach some importance to Maunkopf's symptom in the recognition of a genuine case as against simulation.

In the section dealing with Reflex Disturbances of the Heart the chief attention is naturally given to those which are associated with gastric disease, both functional and organic. There may be abnormal sensations in the cardiac region, also increased rapidity of the heart's action, intermission, and irregularity. The diagnosis must be made with caution in people of advanced years, as, indeed, in all functional derangements of the heart. Adams-Stokes's disease, paroxysmal tachycardia, and Graves's disease are described in the section headed Diseases with a Well-defined Symptom-complex. In the last section the so-called Vascular Neuroses are discussed, such as pulsation of the abdominal aorta, eryphobia (blushing), erythromelalgia, Raynaud's disease, and acroparæsthesia, as well as Erb's angio-sclerotic intermittent dysbasia and intermittent joint effusions.

Dr. Hoffmann has certainly succeeded in giving in a comparatively small compass an interesting and excellent account of a subject to which well-recognised writers on cardiac disease have not always allotted sufficient space. The importance of functional disease of the heart will hardly be questioned, not only on account of its frequency, but also on account of the distress which it causes to those who suffer from it. The author's work constitutes a valuable guide to a knowledge of functional disease of the heart written by one who is obviously deeply read and practically versed in the subject.

A Manual of the Practice of Medicine. By FREDERICK TAYLOR, M.D., F.R.C.P. Lond., Senior Physician to, and Lecturer on Medicine at, Guy's Hospital, Consulting Physician to the Evelina Hospital for Sick Children. London: J. & A. Churchill. 1901. Pp. 1028. Price 16*s.*

THE first edition of this work was published in 1890; the volume now before us is the sixth edition. The success of the text-book, therefore, has been undoubted and we need say but few words as to its general characteristics. The aim of the author has been to offer a short yet complete account of the present state of medical practice which may be useful both to students and to practitioners. In this endeavour Dr. Taylor has been eminently successful. Most attention has been devoted to the description of symptoms, to diagnosis, and to prognosis and treatment. Etiology and pathology are also, of course, considered.

The present edition has been brought fully up to date by a careful revision of the text throughout, by re-writing some of the subjects, by the addition of some subjects not hitherto noticed, and by the insertion of some new illustrations. The subjects which have been most fully revised are malaria, plague, encephalitis, leukæmia, and the examination of the blood. The new matter includes the subjects of myasthenia gravis, paramyoclonus multiplex, acroparæsthesia and acrodactylia, cholecystitis, and polyorromenitis. The last-named term is given to the condition of simultaneous inflammation of two or more of the four great serous membranes, pericardium, pleuræ, and peritoneum—an association to which attention has been especially called by Italian writers. Some of the less common diseases of the skin are also noticed, such as adenoma sebaceum, keratosis, and pityriasis rosea.

Dr. Taylor has followed the arrangement now adopted in most modern text-books by transferring acute rheumatism and gonorrhœal synovitis from the group of diseases of the joints to the section of infectious diseases. This is in accordance with the views now generally held. We cordially endorse the author's remarks as to the loose way in which the term "rheumatic" is employed. Such terms as "rheumatic facial paralysis," "syphilitic rheumatism," and "rheumatic gout" should be excluded from a medical vocabulary, and acute rheumatism or rheumatic fever should be regarded as a definite disease, and as far as possible the term "rheumatic" should be limited to such lesions as can be shown to be directly associated with it.

We have no doubt that this edition of Dr. Taylor's book will attain the same success as that which attended its predecessors.

A Laboratory Course in Bacteriology for the Use of Medical, Agricultural, and Industrial Students. By FREDERIC P. GORHAM, A.M., Associate Professor of Biology, Brown University, Bacteriologist, Health Department, Providence, R.I. With 97 Illustrations. London and Philadelphia: W. B. Saunders and Co. 1901. Pp. 192. Price 5*s.* net.

THE present work, which is described as a laboratory course, is also apparently intended to serve as a guide to the practical details of laboratory work. The author, wisely recognising that it is not the medical student alone who is now interested in bacteriology, has ma[illegible]

the course of such a general character that it may serve as a foundation for future work directed along agricultural and industrial as well as strictly medical lines. The plan of the book resembles that of the "Practical Bacteriology" of Kanthack and Drysdale. Courses of practical bacteriology are usually the outcome of the personal experience of the teacher directed by the special requirements of the institution in which the class is held, and it is not usually easy or satisfactory to graft a course devised for one laboratory on to the teaching of another. A practical laboratory handbook of methods, on the contrary, is of distinct value if those methods are well and accurately described. The present book, though in many respects excellent, suffers from a lack of definiteness of aim. The author is apparently uncertain whether he is writing a laboratory handbook or a course of study devised to give a more general acquaintance with bacteriology. If the latter were the aim the book might be greatly shortened; if the former, the descriptions of methods should be much more detailed and explicit. At present they are condensed to the verge of inaccuracy. Thus in the description of the "hanging drop" no mention is made of any sterilisation of the slide, cover-glass, or water used for suspension of the culture, nor are any precautions suggested for preventing contamination. Such a preparation, it is stated, is used for watching the reproduction of bacteria, but carried out as directed it would lead to strange results. Boni's method for the demonstration of capsules around organisms (p. 33) will itself provide an artificial capsule for some organisms. There is in addition a considerable amount of matter which would appear to be more suitably placed in a systematic treatise than in a laboratory book. Of this nature are Chapter IV. on Classification and much of Chapter VII. embodying Chester's work on the systematic description and determination of organisms. It would have added much to the value of the illustrations of this portion of the book if it were distinctly stated which of the specific descriptive terms suggested should be applied to the culture or colony depicted. Chapter IX. deals with the Bacterial Analysis of Water, Milk, Air, and Soil, while the main portion of the rest of the book contains directions for a short study of pathogenic organisms. It is obvious that the ground covered by this book is very extensive, and as it consists of only 192 pages with a large amount of space occupied by illustrations the wonder is that so much accurate instruction and valuable information has been condensed into so small a space. The author rightly insists on the importance of the chemical actions of the organisms. The illustrations are in great part from the atlas of Fraenkel and Pfeiffer and are well reproduced.

The Morphia Habit. By W. OSCAR JENNINGS, M.R.C.S. Eng., M.D. Paris. London: Baillière, Tindall, and Cox. 1901. Pp. 210. Price 3*s.* 6*d.* net.

IN 1890 Dr. Oscar Jennings published the first edition of his book, giving an account of his special treatment of the morphia habit, and in this, the second edition, he revises his previous work in the light of 11 years' additional experience, during which period he has but slightly modified his methods. The author has always been a vigorous opponent of the sudden suppression of the drug as recommended by Levenstein and others, and has from the first advocated a rational treatment of the morphia craving upon therapeutic indications. That he has found but little to alter in his method during the last decade and that several writers on the same subject in various countries have adopted the treatment first suggested by him, some without acknowledging the source of their inspirations, would seem to afford testimony to its excellence.

The book is written as a guide for patients as well as for practitioners, and perhaps for this reason the author does not give a full account of the symptoms and methods of diagnosis of the morphia habit, or of the dosage of some of the drugs which he employs to counteract the craving and the train of troubles induced by the withdrawal of the drug. The book is, however, well illustrated with notes of cases which supply to a certain extent this information, and the medical reader, though he may favour some method of treatment other than that of the author, cannot fail to profit by the indications as to general treatment which are to be found here. The addition of an index would largely increase the usefulness of the work.

LIBRARY TABLE.

An Idler's Calendar. By G. L. APPERSON. London: George Allen. 1901. Pp. 213. Price 3*s.* 6*d.*—This is an elegant little volume of essays most of which have appeared in the columns of the *Globe* newspaper. The articles show wide reading and accurate knowledge of the country. The descriptions of "The English April," of "The Chaffinch," of "Blackberries," of "Autumn Haze," and of "The Apple Month" show accurate powers of observation as well as a pretty imagination.

The Preservation of the Hair. By R. W. LEFTWICH, M.D. Aberd. Bristol: J. Wright and Co. London: Simpkin, Marshall, Hamilton, Kent, and Co. 1901. Pp. 127. Price 2*s.* net.—Dr. Leftwich has written a practical little book upon the preservation of the hair. He has made experiments on the elastic qualities of the hair, on the effect of toilet preparations and procedures upon the strength of the hair, and on the value of various forms of "brilliantines," "cleansers," and "bactericides." The book, which is written in simple language with a view of being intelligible to the general reader and in places to the hair-dresser, will correct many widely-spread false impressions among laymen.

The Congress on Tuberculosis. By Colonel W. LE POER TRENCH. Second edition. London: Published by the Author. 1901.—Colonel W. Le Poer Trench sends us a pamphlet which consists of reprints of correspondence in the *Times*, which, under the heading of "The Congress on Tuberculosis," resolved itself into a somewhat acrimonious discussion regarding a particular treatment of pulmonary tuberculosis. The fact that since the publication of the pamphlet Colonel Le Poer Trench has again written to the *Times* on the subject prevents us from dealing with the discussion as one that is finally closed, even if, for other reasons, we were not inclined to think that the matter does not concern a medical journal. While we think that Colonel Le Poer Trench is unfortunate in the attitude that he has taken up, we must testify to his obvious and transparent honesty as well as to his courtesy as a letter-writer.

The Origin of Species. By CHARLES DARWIN. London: John Murray. 1901. Pp. 432. Price 1*s.*—In view of the fact that one or two editions of Darwin's "Origin of Species" have been prepared to meet the approaching expiration of the copyright of the first edition of that book Mr. Murray has placed upon the market a cheap copy of the work. The shilling edition is a popular impression of the corrected copyright edition issued with the approval of the author's executors, and Mr. Murray announces that the edition which has recently lost protection is the imperfect edition which has been reprinted without the authority or consent of Mr. Darwin's representatives. It is an excellent thing that the "Origin of Species" is published in such a form that it can reach the hands of a very large public, and, of course, it is advisable that all Darwin's corrections should be incorporated in the popular edition. We are under the impression, however, that the amount of correction which Darwin found it necessary to make is rather trivial.

Hospital Sketches. By LUCAS GALEN. London: Grant Richards. 1902. Pp. 158. Price 1*s.*—These little sketches bear the stamp of truth, as anybody will recognise who has ever worked in a hospital out-patient room. "Lucas Galen" can write English and he has a keen eye for the humorous and, we may add, for the pathetic. Both these qualities are daily to be met with in the out-patient room. The sketches entitled "Placens Uxor" and "Obiter Dictum" will appeal forcibly to many of our readers, but perhaps the gem of the whole collection is "The School Board for London and Medical Certificates." We commend this sketch to the notice of Dr. James Kerr who is about to enter on the arduous duties of medical officer to the London School Board. Dr. Kerr will then see how the Board regards a medical certificate signed by a duly-qualified medical man. Another excellent sketch is "The Conclusion of the Whole Matter." We hope to hear more from "Lucas Galen."

Brain: a Journal of Neurology. General Index for Volumes I. to XXIII.—In the spring of 1901 the Council of the Neurological Society decided to publish an index to the first 23 volumes of *Brain* which had been prepared up to the end of the year 1900. A small sub-committee, consisting of the treasurer, the two secretaries, and Dr. R. Percy Smith (the editor), was formed, and the duty of seeing the index through the press devolved on Dr. Percy Smith who was assisted by Dr. W. S. Colman (the senior secretary). The correction of proofs was, we can well understand, an arduous work, as, to make such a book of reference as an index to *Brain* of any value, it is absolutely necessary that every name and title should be verified by reference to the original papers. This has been done throughout the whole of the 23 volumes, representing a large amount of unremitting and unremunerated time and labour for which the whole of the medical profession ought to be really grateful. The index is arranged in two parts—an index of authors and an index of subjects. Included in the index of authors are not only the names of the writers of original papers but also those of authors of books or papers which have been reviewed in *Brain*. In the index of subjects Dr. Percy Smith and Dr. Colman found themselves in the difficulty which every editor of medical and scientific works has found himself in of late: a nomenclature adopted at different periods with regard to the same subject allows that subject to be indexed under two or more headings, while the titles of many of the papers are so complex as to involve insertion under several headings. We congratulate the Neurological Society on placing in the hands of the medical profession a guide-book to the storehouse of learning and knowledge contained in the back volumes of *Brain*.

JOURNALS AND MAGAZINES.

The Library.—The current number of this quarterly journal contains a very interesting article by Mr. Campbell Dodgson upon "Early Pestblätter." The article is a review of a series of reproductions of early, popular, devotional plague pictures with a descriptive text by Herr W. L. Schreiber, published at Strasburg by Messrs. Heitz and Mundel. The chief saints invoked against the plague were the Blessed Virgin, St. Antony, St. Sebastian, and St. Roch. The typically medical saints—namely, St. Cosmas, St. Damian, and St. Pantelemon—do not seem to have been specially invoked against the plague, but in Western Europe these saints were somewhat local celebrities. The cultus of St. Pantelemon (Pantaleone) was, we fancy, exclusively confined to Venice, and St. Cosmas and St. Damian were not much known outside Northern Italy—especially Florence. At first sight it seems difficult to see the connexion between St. Sebastian and the plague. However, as Mr. Dodgson points out, arrows are symbolical of plague, and St. Sebastian was martyred by being shot at with arrows. True, he recovered from the arrow wounds, having been shot at by experts who avoided the vital parts. Appearing more dead than alive before Diocletian, to remonstrate against his tyranny, he was taken out and clubbed to death. Plague, of course, was *plaga*, the blow *par excellence*, and a better quotation as exemplifying the verbal connexion of arrows and "plague" than that from Psalm xci., as quoted by Mr. Dodgson, is afforded by both the LXX. and Vulgate versions of Psalm lxiii., v. 8 (in the Authorised Version, Psalm lxiv., v. 7). The Vulgate runs: "Sagittæ parvulorum factae sunt plagæ eorum." The article is illustrated by a print of St. Roch—"Le très glorieux amy de Dieux, Monseigneur Saint Roch, vray preservateur de la peste," to give him his French title. The plague bubo, perhaps from motives of delicacy or possibly from artistic reasons, is represented at the junction of the lower and middle thirds of the thigh. Of the other articles, "English Book Illustrations of To-day" deals with "Decorative Illustrators." We suppose that "decorative" is used in the sense of "imaginative," but somehow none of the examples reproduced moves us like the work of Sandys. What a magnificent piece of work is the drawing in *Once a Week* to "Yet once more on the organ play," even though the organ pipes are reversed. The article is, however, only the first of a series, and we hope that in the coming numbers some examples will be given of the work of H. J. Ford and J. D. Batten. Wash drawings like those of J. R. Weguelin, who is certainly a decorative illustrator, could hardly be reproduced in *The Library* unless printed on a special paper.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY J. HICKSON, F.R.S. With lithographic plates and engravings on wood. London: J. and A. Churchill. 1902. New series, No. 179. Vol. xlv., part 3. Pp. 167. Price 10*s.*—The contents of this part are—1. Dendrocometes Paradoxus. Part 1. Conjugation, by Sydney J. Hickson, D.Sc., F.R.S., assisted by J. T. Wadsworth. With two plates. This species of the class acinetaria is obtainable at all times of the year from the commonest of crustaceans, the gammarus pulex, on the gills of which it is constantly to be found. Dr. Hickson states that, in his opinion, in the conjugation of Dendrocometes paradoxus there is a mixing or a shuffling of the molecules of all the essential plasms of the body—namely, of the micro-nucleoplasm, of the mega-nucleoplasm, and of the cytoplasm. 2. On the Oviparous Species of Onychophora, by Arthur Dendy, D.Sc., F.L.S., with four plates which exhibit the appearances presented by the living animals and their anatomica characters. 3. A New and Annectant Type of Chilopod by R. J. Pocock, with a plate which depicts the structural features of Craterostigmus Tasmanianus. 4. The Trypanosoma Brucii, the organism found in nagana or tse-tse fly disease. Inoculated mice and rats die rapidly and a flagellated organism is found in great numbers in their blood. It proves fatal to guinea-pigs, rabbits, goats, dogs, and cats, affecting especially the spleen and lymphatic glands as well as being abundant in the blood. It kills the animals at periods varying from five days to 18 weeks. It is a flagellated organism which is apt to fuse with others to form a plasmodium. 5. Notes on Actinotrocha, by K. Ramunni Menon, assistant professor, Presidency College, Madras, with a plate. 6. Review of Mr. Iwaji Ikeda's observations on the Development, Structure, and Metamorphosis of Actinotrocha, by A. J. Masterman, Edinburgh.

WIGAN MEDICAL SOCIETY.—The annual meeting of this society was held on Feb. 11th, when the following were elected officers for the ensuing year:—President: Mr. T. M. Angior. Committee: Mr. Angior (president), Mr. W. Latham (vice-president), Mr. W. Mitchell Roocroft, Dr. R. P. White, Mr. C. M. Brady, Dr. John Blair, Dr. Matthew Benson, and Mr. C. R. Graham. Honorary treasurer: Mr E. H. Monks. Honorary secretary: Mr. W. Berry.

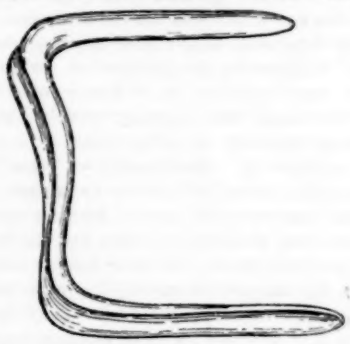
New Inventions.

IMPROVED "RELIANCE" CLINICAL THERMOMETER.

THE accompanying illustration shows a new form of "Reliance" clinical thermometer which has just been brought out by Messrs. Arnold and Sons of West Smithfield, London, E.C. It is of the ordinary round tube pattern, but has a ridge along the whole length of the stem on the reverse side to the index which effectually prevents rolling when placed on a desk or other inclined surface, being in this respect superior to the lens clinical. It is also claimed that it obviates breakage in re-setting the index, as so often occurs in the flat-backed variety which is specially weak owing to its formation and etching, the ridge on the "Reliance" thermometer giving great additional strength to the tube.

A DUCK-BILL SPECULUM FOR THE FEMALE URETHRA.

CARUNCLE of the female urethra is a very common affection. The growths, which are situated almost entirely on the lower floor in or near the meatus, are



often somewhat deeply attached and for some distance up the tube. They easily break off and are very liable to recur, especially if the base of attachment is not freely removed. The speculum shown in the accompanying illustration has been found very useful in both the examination and removal of these growths. It is made on the principle of a duck-bill vaginal speculum; the concave surfaces on the two legs are of different width and are bevelled off at the ends. By hooking up the instrument over the vulva and depressing the upper blade the caruncle can be everted with the lower one and a light reflected on to it. For removal with the thermo- or galvano-cautery this arrangement is invaluable. I have found it to give a better view than either the ordinary Bryant's vulcanite speculum or the bivalve dilator and is much less painful to the patient than the latter. It has been made for me by Messrs. Wood and Co. of York. CHARLES J. WRIGHT.

Leeds.

ASYLUM REPORTS.

London County Asylum, Banstead (Report for the year ending March 31st, 1901).—The average number of patients resident during the year was 2443. The admissions during the year amounted to 547, and of these 463 were first admissions. Dr. T. Claye Shaw, then the medical superintendent, states in his report that the number of admissions during the year was the largest since 1891. The mental and bodily condition of the patients admitted was much impaired, and some of the patients (transfers from other asylums) were of a very violent and incurable type. "Drink, privation, worry, and general disease were chiefly responsible for the attacks, and but little was attributable to influenza." In the early part of the year scarlet fever affected five nurses and two female patients, all of whom were treated in the isolation hospital. All made good recoveries. There was no other outbreak of epidemic disease during the year. Six patients escaped, but all were retaken. Two attendants sustained fractures of the leg through being pushed down by patients. No other serious casualties occurred in the year. Two male attendants died, one from pneumonia and the other from pulmonary tuberculosis. In May, 1900, 14 nurses passed the examination of the Medico-Psychological Association and obtained certificates. "A practical masseuse has given lessons in massage [to the nurses]. I have much hope," adds Dr. Claye Shaw, "from this treatment, especially in cases requiring artificial feeding in conditions of melancholia." The number of patients discharged as recovered during the year was 238, or 9·7 per cent. of the average number resident. The deaths amounted to 247, or 10·1 per cent. as calculated on the same basis. Of the deaths 11 were due to senile decay, 25 to epilepsy, 29 to cardiac disease, 45 to pulmonary tuberculosis, 47 to chronic brain atrophy, 57 to general paralysis, and the rest to other causes. The Commissioners in Lunacy state in their report that the wards and rooms were bright and clean and in very good condition, the appearance of the patients was neat, and the medical case-books and records were well kept.

Looking Back.

FROM

THE LANCET, *SUNDAY, FEB.* 29, 1824.

To the Editor of The Lancet.

SIR,—Reading in *The Lancet* this week the account of an experiment in transfusion, performed by Dr. BLUNDELL, assisted by myself and others, I beg leave to transmit a few more particulars respecting it. First, it was the blood taken from the carotid artery of one dog, that was injected into another dog, which had been drained till a state of apparent death was produced. Secondly, Dr. BLUNDELL does not recommend the injection of blood into the jugular vein of a woman, but into some vein more remote from the heart, as of the hand or arm for instance. Thirdly, it is not the blood of animals which Dr. BLUNDELL proposes to inject into the human veins, as he tells us in his physiological lectures that he doubts whether the blood of one genus of animals can be safely substituted for that of another, but human blood itself to be taken from the arm of another person by venesection. Fourthly and lastly, Dr. BLUNDELL considers it essential to the success of the operation, that by means of a proper instrument the blood be injected into the vein of a patient, as fast as it issues from the vein of the person who emits it, without lodging in the cups of the syringe for more than a few seconds at most. It may not be amiss to add, that the syringe and joints of the instrument, which we employed in this experiment, are made to work under water, so as to preclude the possibility of the entrance of air into the apparatus, as air getting into the veins produces dangerous and even fatal effects.'

I am, Sir,

Your obedient Servant,

ROBERT JOHN LINTON.

Guy's Hospital, Feb. 23, 1824.

P.S.—It is a fortnight since the experiment, and the dog is quite well.

THE LATE EDWARD GRAINGER, ESQ.

The Friends of this highly talented young man are respectfully informed, that an Animated BUST, the size of Life, has been executed by Mr. HOLLINS, Sculptor of Birmingham, which has met with the decided approbation of his Family, and all who have seen it. To meet the wishes of his numerous Pupils and Friends, Mr. H. has been induced to prepare *casts* of it at *Two Guineas each.*

GIFTS TO HOSPITALS.—The Leathersellers' Company has sent to the Chelsea Hospital for Women a donation of £10 10*s.*—The Bishop of London, as trustee of the Marriott bequest, has sent a cheque for £1700 to the North-Eastern Hospital for Children, Hackney-road.

THE LANCET.

LONDON: SATURDAY, MARCH 1, 1902.

Publicity for Medical Men in the Lay Press.

OUR pages during the past weeks have borne evidence of the very natural indignation which has been aroused by the publication of the names and addresses of sundry medical men (with comments upon their ability) in a book entitled "What's What," a compilation intended to give information about all sorts of things for the benefit of the general reader. This week we publish a letter from yet another injured medical *confrère*. Mr. HARRY QUILTER, the editor of the work in question, has, we learn, owing to the indignation aroused by his procedure, withdrawn the offending paragraphs with a willingness which we commend. Truth to say, he could do no less, for he sinned deliberately and against the light, as his opening words in Appendix B to the work show. "This paragram," he writes, "is medically speaking an unforgiveable sin," so that he cannot have been surprised at the resentment aroused. In general, of course, it is not to be expected that the average layman will, or can, understand the rules governing professional etiquette. The average layman looks in books of reference and finds lists more or less accurate of the best butcher or bootmaker or tailor or dressmaker, and he naturally enough thinks that it would be a good thing to be able to choose his "doctor" on the same plan. Mr. QUILTER proposed to meet his wants and at the same time to do some persons a good turn by lauding them at large and giving their names and addresses. The state of mind both of Mr. QUILTER and of the audience for which he has written with respect to such lists of recommended medical men is largely due to the fact that there is no marketable commodity which the ordinary person is so fond of getting for nothing as medical advice. If he wants special legal advice he knows that he must consult a barrister through a solicitor; if he wants special medical advice he will do anything rather than send for his usual medical attendant and ask his advice with regard to a consultant. In one class of life he will ask any medical man whom he happens to meet out at dinner for advice as to his symptoms or the best authority to consult, in another class of life he will write to a halfpenny evening newspaper. Mr. QUILTER apparently decided to catch all these economical and misguided persons as readers of "What's What."

Mr. QUILTER'S letter which appeared at p. 549 of THE LANCET of Feb. 22nd raises two most important points, though one might well have been passed by without comment had it not been that a medical paper has discussed it in an unfortunate manner. It is that the medical men mentioned by Mr. QUILTER in his book have directly or indirectly been responsible for the insertion of their names, or have given him a *quid pro quo* for the insertion of their names. We may say at once that the reason why we animadvert upon Mr. QUILTER'S appendix has nothing whatever to do with such an infamous charge. No one acquainted with the traditions of British literary work or with the traditions of the medical profession could suppose for one instant that the appendix in question was written from a commercial point of view on either side. The editor of the *Medical Times* writing in our columns repudiates having made any insinuation of the sort and objects to this interpretation being put upon his words by Mr. WATSON CHEYNE and Mr. QUILTER. We call his treatment of the situation unfortunate because it was particularly necessary that his words upon such a matter should not be liable to misconstruction and not because we doubt his explanation to be sincere. But it is in regard to the second point—namely, that the publication of medical names is for the public interest—that we differ from Mr. QUILTER. The danger in such paragraphs lies in the fact that the public are quite incapable of sifting the chaff from the wheat. Anything which appears in print is taken by the average man for gospel. The medical men mentioned in "What's What" were in the front ranks. But in many instances the medical adviser put forward in a lay paper is very far from being an authority. Occasionally, we regret to say, a medical man himself will write to a lay paper and proclaim, indirectly of course, that he is the first authority upon something or other, and the layman who reads such an effusion is quite incapable of realising that A B, who writes under his own hand, is a pushing ignoramus, and not in the least in the same class as X Y who may be given as an authority, entirely against his will, in a book of reference. It will be a sorry day for the public as well as for medical men if practitioners of medicine ever come to be looked on as standing on the same footing as the purveyors of beef or of drapery, for the appraisement of whose merits no special or technical knowledge is required.

If once it be considered allowable for medical men to be advertised in the lay press the public will see no difference between the real leaders of the profession and the various medical and quasi-medical men recommended in the health and beauty columns of fashion papers, where they appear in company with the CANIDIAS who profess to be able to arrest the ravages of time or to increase the size of the mammary glands. The recommendation of a consultant must be left to someone who knows the patient's constitution and that person is the general practitioner. We do not think that it requires any very subtle intellect to perceive this. It is common for our lay contemporaries to describe medical etiquette as being some impossible rigmarole of rules understood by no one and constructed by medical men to confound their critics. This view is the one usually taken by the lay press. It is generally put forward jocosely, but the joke is getting old, and we look forward to the time when the public will credit the medical profession with obeying a code of unwritten rules that is of the greatest benefit to their patients.

The Sanitary Administration of Glasgow.

WE regret to learn that difficulties have arisen in connexion with the health department of Glasgow. It is admitted on all hands that as regards the practical carrying out of its work the administration of the department has been most efficient. Our columns have on numerous occasions borne witness to the ability and energy displayed by the medical officer of health of Glasgow and his staff, both in the management of epidemics and in the more prosaic routine duties which have for their object the improvement of the general health of the community. In all crowded populations, and especially in large cities, the conditions of life are now-a-days to a great extent artificial; the enjoyment of life is facilitated, its conveniences are multiplied, and so are the agencies which lower the health of the individual and favour the development of disease. This fact, although long known, received little attention from the legislature until some 50 years ago, but an era of diminished urban death-rates was then inaugurated which affords conclusive evidence that medical science practically applied under the direction of the medical profession may be the means of saving thousands of lives every year. In course of time public health departments were formed all over the country, and—curiously enough when the value of the medical work to the community is considered—our columns have only too often recorded the settled tendency and the occasional active endeavours of the majority of these bodies to keep the medical officers in a sort of tutelage and to limit their authority as much as possible. Influences of this description have evidently been at work in Glasgow, although the town council in its corporate capacity has succeeded in maintaining an attitude of judicial impartiality, and one of its members has hinted not obscurely that the elastic policy of the Local Government Board for Scotland is in some degree responsible for the unfortunate complications which have arisen. Very important issues are involved, for a crisis has now been reached. Matters apparently cannot be suffered to continue on their present footing, and whatever solution may be found the case can hardly fail to have a profound effect on the public health service in Scotland.

The thread of the story, as told in the *Glasgow Herald* of Feb. 19th and 20th, is not difficult to follow. It appears that the medical department and the sanitary department, as at present existing, are distinct from one another, and that the sanitary inspector, who is the head of the sanitary department, is not subject to the control of the medical officer of health. The two departments must necessarily have a great many points of contact, with a correspondingly close relationship in the matter of duties, and human nature being as it is the system is evidently such that misunderstandings might be expected. They did not fail to occur, with the result that on July 25th, 1900, the town council appointed a special committee "to inquire into and consider and report as to the cause of certain officials of the Health Department not working in harmony, and the effect thereof." The report, which in length does not exceed two columns of THE LANCET, was only presented on Feb. 19th, 1902, a special meeting of the town council being held on that day for the purpose of considering it. The following passages occur in it:—

"The special committee, with regret, but without hesitation, have to state that they have had abundant evidence submitted to them showing that want of harmony which the resolution of the corporation implied. ..... The special committee are agreed that distinct and definite regulations under the Public Health (Scotland) Act, 1897, are indispensable, but are of opinion that, before it is possible to frame those regulations, the general relations between the various branches of the department should be settled by the corporation. What those relations should be the committee have very carefully and anxiously considered. They are unanimous in thinking that, in view of the supreme importance of the health of the community, and of the direct bearing thereon of the work of all branches of the Public Health Department, the opinion and advice of the medical officer of health should be paramount, subject to such statutory enactments as may be contained in any Act of Parliament, and to such regulations as the corporation may adopt."

The Lord Provost moved the adoption of the special committee's report in a lengthy speech, commencing with an allusion to the difficulty and delicacy of the task which had been imposed on the committee. He subsequently pointed out that in 1885 Dr. JAMES B. RUSSELL, the previous medical officer of health, submitted a memorandum in which he urged the corporation to make the health department include the sanitary department and to place the whole under the medical officer of health, but after heated discussions the corporation declined to accept that advice. The present committee, however, were unanimously of opinion that the medical officer of health should be paramount, and their solution of the difficulty was that a new medical officer of health should be appointed having control over both Dr. A. K. CHALMERS, the present medical officer of health, and Mr. FYFE, the present sanitary inspector. Now both these gentlemen are men of high personal character and great professional ability, while they cannot be dismissed because they are statutory officers responsible to the Local Government Board as well as to the corporation. Mr. W. F. ANDERSON reminded the council that Dr. RUSSELL'S suggestion that the medical officer ought to be supreme was adopted by the health committee, but rejected by the town council by 25 to 17 votes. In 1897 they got a new Health Act, and the medical profession endeavoured to assert the position which was suggested in 1885 by Dr. RUSSELL, but in both Houses of Parliament their proposals were rejected. He quoted the regulations of the Local Government Board to show that the option lay with the town council to decide whether the sanitary inspector should or should not act under the superintendence of the medical officer of health, and he moved as an amendment that the corporation should remit the minute back to the committee with the addition of six members of the Health Committee to draft regulations and to frame by-laws in accordance with the fifteenth section of the Public Health (Scotland) Act, 1897.

On Mr. R. M. MITCHELL moving that the corporation should ask Dr. CHALMERS and Mr. FYFE to resign their offices, Mr. MURRAY, the city treasurer, said that the real question was whether there were one or two departments. If there were two departments there ought to be two heads, but if there were only one there could

be only one head. The present difficulty, he believed, was due to the decision come to by the Council in 1885, and Dr. RUSSELL, in the memorandum to which the Lord Provost referred, predicted the very state of things which had come about. He understood that there was a feeling on the part of some members that there were two distinct departments—the Health Department and the Sanitary Department—but he did not know where any formal statement to this effect was to be found. Throughout the minutes for a series of years they were described as one department, without any acknowledgment that they were two departments. He thought the mistake which had been made was in endeavouring to separate departments which were in their nature inseparable. The medical officer seemed to have acted in accordance with a preconceived idea of what he thought his department ought to be and had not sufficiently kept in mind what its position actually was. Mr. HUGH ALEXANDER said that it seemed to him that the minute had been framed in order to get rid of Dr. CHALMERS. If they wished to get rid of him, then let them do it in a straightforward manner, but if they were satisfied that the medical officer ought to be supreme, then why did they not recommend that he should be made supreme? Mr. FIFE moved that the minute should be remitted back to the special committee to frame regulations and to define the duties of the medical officer of health and of the sanitary inspector, and their relations to each other, on the basis of the medical officer of health being the supreme and responsible head of all branches of the Public Health Department of the city. On the motion and amendments being put to the meeting Mr. W. F. ANDERSON'S amendment was carried by a large majority. The minute submitted by the special committee was accordingly remitted back to them. We trust that nothing more will be heard of Dr. CHALMERS'S resignation. The value of his work to the city of Glasgow has been enormous, and the community owes him a heavy debt of gratitude.

The Midwives Bill.

THE Midwives Bill of 1902, which, in accordance with very general anticipation, has now passed its second reading, differs from the Midwives Bill which two years ago reached a similar stage in several of its provisions, while the alterations render it even more open to objection than its predecessor was. The particular alterations, to which we have already drawn attention, although made with little more than the stroke of a pen, are by no means matters of detail: they are of considerable, even of vital, importance to the measure, and transform it into one that in no circumstances ought to become law without very real alteration. The arguments for and against the registration of midwives have been given at length so often in our columns and we have summarised and compared them, substantiated and refuted them, so repeatedly, that it is unnecessary to reconsider the whole question here. Our readers know our views on the matter exactly, and we know theirs to a great extent: they do not all think alike, but a preponderating vote agrees that none of the measures which have yet seen the light is certain to supply the parturient poor with trustworthy attention. What, however, has to be considered now is not the general question but the particular Bill which has now been referred to the Grand Committee on Law. It remains for the medical profession to bring to bear all the influence that it possesses in order that as far as possible the Bill may be made to conform to the medical ideals of public safety. Not only must the latest modifications, which are all for the worse, be removed from the measure, but the many places where the Bill of 1900 failed to satisfy even amiable critics must be looked to.

The main points of difference between the measure of 1902 and that of 1900 are—they will bear repeating though we set them out as recently as in our last issue—(1) the omission of the words penalising the unlicensed practice of midwifery for gain; (2) the laying of the duty of the formation of a Central Midwives Board upon the Lord President of the Council instead of upon the President of the General Medical Council; and (3) the provision that the Central Midwives Board shall frame its rules subject to the approval of the Privy Council, after consultation with the General Medical Council, instead of the rules being framed subject to the approval of the General Medical Council. Among the suggested additions to the Bill of 1900 which should be made when the defaults of the 1902 measure have been attended to are the restriction of the practice of midwives under the Act to normal cases and the compulsory production of evidence of good character, as well as of training and experience, by applicants for midwives' certificates. With regard to the penalising of the practice of midwifery by persons who do not choose to avail themselves of whatever Act may be passed, this appears to us to be of the first importance. The Act will become a dead letter in many districts of the country at once if the unlicensed woman can compete without penalty with the licensed. The insertion of a penal provision constitutes an irresistible inducement to the best of the women who may now be practising as midwives to place themselves under the Act, simply because otherwise they will not be able to practise for gain at all. Undoubtedly the penal clause would also act as a protection to those other women who might be able, unless some provision to the contrary is made, to qualify under the Act as midwives, when their proper style is "Gamps," but this is an inherent fault, as far as we can see, in all Midwives Bills. And a "Gamp" under supervision is to some extent a limited danger, which is one of the things that can always be said in favour of the principle of the registration of midwives. An ignorant woman will naturally prefer to be subject to no restrictions in undertaking any responsibility in connexion with childbirth. She will prefer to retain a position of independence if this can be done without loss of employment. Certainly the penal clause should be re-inserted. The new Bill, as if to emphasise the completeness with which it divests itself of all control over, or interest in, the practice of such women as may not avail themselves of its offer to place them on its contemplated roll of midwives, gives a fresh and simple definition of midwife. A midwife in the new Act is to mean "a woman who is certified under this Act," and nothing more. There is no hint of a definition of the scope of her duties, which is to be left to the Privy Council, acting upon the advice of the General Medical Council. But the law preventing

other women than a certain class of women from calling themselves "midwives" will not abolish the large existing body of persons using the title. To penalise their gains might stop their vocation, but to legislate about their right to a certain style will have no effect whatever.

The removal of the responsibility for the formation of the Central Midwives Board from the President of the General Medical Council to the Lord President of the Privy Council and the arrangement for the submission of the rules of this board when framed to the Privy Council, leaving the General Medical Council to act in an advisory capacity only, are both retrograde steps. They will, in our opinion, prevent the measure from working smoothly and effectively in the direction desired by its promoters—that is to say, for the good of parturient women of the poorer class. The General Medical Council must know better than the Privy Council whether the rules framed by the Central Midwives Board for the regulation of candidates for the midwives' roll, and of their conduct when upon the roll, will conduce to efficiency and harmonious working with the medical profession. Sir JOHN BATTY TUKE, who moved the rejection of the Bill at the instance of the General Medical Council, laid no stress on this point. He showed himself to be in accord with the principle of the measure even while he considered its details faulty, and his speech displayed the temperate nature of the objections urged by the medical profession against the Bill. And those objections *are* temperate, although the leaders of the movement for the registration of midwives—those ardent spirits whom the Home Secretary described in his summary of the debate as "desiring much more than anything which was suggested in this Bill"—are wont to term them narrow and bitter. Medical men prove daily all over the country by the lives that they lead and the deeds that they do the reality and depth of their sympathy with the sick poor. General practitioners see more clearly than either obstetric physicians in their wards or philanthropic ladies in their drawing-rooms what the dangers of creating an inferior class of medical practitioners must be to those very women whom the registration of midwives is designed to assist. These dangers Sir WALTER FOSTER urged upon the House of Commons on Wednesday afternoon, and we, and many of our correspondents, have pointed them out time after time in the columns of THE LANCET. We trust sincerely that there will be a genuine attempt on the part of legislators to realise them and to provide against them before the Midwives Bill finds its way into the statute book.

Annotations.

"Ne quid nimis."

TETANUS AFTER VACCINATION.

THE extremely rare deserves study not less than the extremely common. That which is exceptional not only tests our rules and our inferences, but it often enables us to see facts more clearly and to apply conclusions more precisely. A striking example of the extremely rare is presented by the case of tetanus after revaccination which was recorded in THE LANCET of Feb. 22nd, p. 506, by Dr. W. Findlay and Dr. J. W. Findlay. The case is one of great importance, but its importance is far less in regard to vaccination than in regard to tetanus. The danger that vaccination may be a cause of tetanus may be estimated from the fact that it has occurred in this country about once in 5,000,000 cases, and a risk that is represented by one in perhaps 5,000,000 is absolutely negligible. The frequency is somewhat greater, and the risk is correspondingly increased, in tetanogenic countries, but it may be doubted whether even in such countries it is greater than one in a million. It is in regard to the process by which the tetanus organisms may have been introduced into the system, and in regard to the general etiology of tetanus, that the case in question deserves careful thought. The tetanus bacilli cannot have been contained in the lymph employed. Apart from the fact that several other persons were vaccinated from the same tube without ill result, the precautions which are now employed to prevent the presence of extraneous organisms in vaccine lymph should afford perfect certainty on this point. The view of the writers of the paper is that the infection must be associated with the fact that the vaccination was on the leg, and they consider that the trailing skirts of modern days were probably answerable for the collection of the bacilli from the ground and streets and their presence on the skin at the seat of vaccination. The fact that the place inoculated was afterwards protected by a bunion plaster, covered to keep it in position by a strip of ordinary plaster and fixed soon after the vaccination, precludes, it is thought, any subsequent infection, but this view is open to challenge. The authors assume that the bacilli must have been previously present in the skin. But it is difficult to dismiss so lightly as they do the inutility of the measures adopted to secure the destruction of organisms. The skin was washed with turpentine, then with spirit, and then with a solution of 1 in 40 of carbolic acid. These measures are certainly very different from the "incantation" with which they are compared by the writers of the paper. We cannot think that the process employed would leave the tetanus bacillus within the glands or crypts of the skin, even supposing that they are accustomed to secrete themselves in such a situation. The subsequent access of the bacilli to the inoculated surface seems much more likely. The nearest analogy to tetanus after vaccination, probably, is its occurrence after burns. In these cases it is clearly impossible that the bacilli can have been introduced during the process of burning or that any organisms previously in or on the skin can have survived such application of heat and have been the means of infection. They must have reached the burnt surface afterwards from the air or from materials applied to the burn. Their presence in the air can scarcely be doubted when we remember that they have been found in abundance in the dust of rooms with wooden floors, and in cobwebs applied to arrest the bleeding of wounds. That it is the air from which they gain access to the burnt surfaces is suggested by the fact that tetanus is more frequent after extensive burns than after small burns. In one fatal case, the particulars of which are present to our memory, after a very extensive burn the patient was examined in a certainly dusty casualty room, in the air of which many kinds of organisms must assuredly have been present. In vaccination as now performed the exposure of the surface to the air for some time until the glycerinated lymph is dry is a point to be borne in mind in this connexion, while vaccination on the leg would involve more risk of contamination by dust from the floor than if it had been done on the arm. In any similar case it would at least be wise for dust from the corners of the room in which the vaccination was performed to be collected and an attempt made to ascertain whether it would yield any cultures of the bacilli. Moreover, the bunion plaster placed upon the spot is not likely to have been subjected to any disinfection,

and it would have been wise for this to have been tested in like manner, as well as the garments which had been near the vaccinated spot. There is, further, the improbability that the plaster which was placed over the whole was so completely secured as to be impervious to dust, and the stocking worn over the leg is also a conceivable source of the bacilli. In these mysterious cases no stone should be left unturned in the attempt to discover the origin of the disease. Nothing can be dismissed as impossible, and no amount of improbability should be allowed to hinder a thorough investigation. Our knowledge of the nature of the virus points out clearly the lines of the inquiry, but we still know little of the channels by which access is gained to receptive surfaces. Moreover, the fact that the exact nature of the cases of tetanus supposed to be idiopathic is still obscure is an additional reason for taking the fullest advantage of every opportunity of learning more of the part which may be played by dust in the production of the disease. The free growth of the organisms in earth is well known, and so also is the great frequency with which the organisms are certainly inoculated where earth obtains access to a wounded surface. But little is known regarding the actual frequency with which the tetanus bacilli exist in the common dust of houses, dust which is inevitably abundant in all the houses of large towns. However strict may be the effort to maintain a high degree of cleanliness, there is probably no house in which sufficient dust does not accumulate in some places to constitute a source of these bacilli; and a thorough examination, however troublesome, should be neglected in no case in which the occurrence of the disease points to the possibility that the search may yield definite results.

THE ACETYLENE LIGHT IN OMNIBUSES.

IT is not many weeks since the acetylene lamp was made to replace the dirty time-honoured oil lamp in most of the London omnibuses, and very general appreciation was expressed of the great improvement in the interior lighting of the vehicle which is thereby gained. The acetylene lamp undoubtedly gives a powerful white light and the consumption of gas for this brilliant effect is comparatively small. Unfortunately, the acetylene generated from carbide of calcium possesses a very disagreeable odour, suggesting at the same time garlic and the fumes from the moistened tip of a phosphorus match. The least escape of gas is thus instantly detected by the nose, and omnibus passengers have raised strong complaints about it, while the drivers themselves confess that it has sickened many of their number. It is doubtful whether pure acetylene is poisonous, and it is certainly only faintly odorous, but the gas from carbide of calcium is very impure and contains usually a very perceptible proportion of phosphoretted hydrogen and sulphuretted hydrogen to which is due its smell. The former gas is, of course, intensely poisonous, and may easily give rise to symptoms of poisoning, having an exciting action upon the respiratory tissues and an irritating action upon the skin. Sulphuretted hydrogen is also poisonous, but not to the same degree. Acetylene prepared from commercial carbide of calcium may therefore easily prove injurious to health, and there seems to be little doubt that some bad effects are being experienced by the drivers of the acetylene-lighted omnibuses. Health, however, must not be sacrificed for the sake of increased light and something should be done to remove this reproach from the acetylene lamp. The complaints which have been made pretty freely point, of course, to escape of gas, perhaps by draughts, which surely can be remedied, but, failing this, cannot carbide of calcium be purified from sulphur and phosphorus compounds which form highly poisonous gases during the generation of acetylene? "Phossy jaw" amongst omnibus drivers and travellers would be a startling sequel to the installation of acetylene lamps in London omnibuses.

SMALL-POX IN LONDON.

THE returns of small-pox for the past week show the following figures. On Saturday, Feb. 22nd, there were 44 fresh cases notified and removed; on Sunday, the 23rd, there were 25 fresh cases; on Monday, the 24th, there were 58 fresh cases; on Tuesday, the 25th, there were 63 fresh cases; and on Wednesday, the 26th, there were 44 fresh cases. Within the county of Essex 378 cases have been reported from Jan. 1st to Feb. 22nd. Dr. J. C. Thresh, the medical officer of health of the county, reports under the date of Feb. 24th that there is grave reason to suspect that the disease is being spread by tramps. The medical officer of health of the metropolitan borough of Woolwich, Dr. Sidney Davies, has distributed two leaflets to every house in the borough. The one deals with small-pox and the truth about vaccination, giving plain simple statements which should convince anyone inclined to doubt the efficacy of vaccination, while the other leaflet contains simple hygienic precepts, the precautions to be taken against measles and consumption, and 14 simple rules for "feeding baby." The London County Council has issued a circular to medical practitioners within the county stating that the Council has made an arrangement with 37 medical men who are willing to act as consultants to facilitate the diagnosis of doubtful cases of small-pox. The fees of these gentlemen will be paid by the Council. This is a most important departure, and we believe that our readers will see in the action of the London County Council a real intent to be helpful to them in an arduous time. The difficulty of diagnosing small-pox is great, seeing that the majority of the medical profession in London, fortunately for the London public, have not any familiarity with the disease. It was not an easy task for the London County Council to select the medical men who would be able to assist in the diagnosis of doubtful cases of small-pox, and the list of names has not gone uncriticised. London medical men may, however, be certain that no pains were spared to choose practitioners, to act in an advisory capacity, who had had actual experience of the disease.

FELLOWS' DINNER OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

A MOST successful dinner of the Fellows of the Royal Medical and Chirurgical Society was held in the Whitehall Rooms on the evening of Feb. 26th, and was attended by some 120 Fellows and their guests. The Vice-President, Dr. C. Theodore Williams, in the absence of the President, Dr. F. W. Pavy, took the chair. The guests of the society were Professor A. W. Rücker, F.R.S. (President of the University of London), Dr. A. Conan Doyle, Sir Walter Sendall, G.C.M.G., Surgeon-General W. Taylor, C.B. (Director-General of the Army Medical Service), Mr. Henry G. Howse (President of the Royal College of Surgeons of England), Sir William Turner, K.C.B., F.R.S. (President of the General Medical Council), Mr. Howard Marsh (President of the Clinical Society of London), Mr. W. Watson Cheyne, C.B., F.R.S. (President of the Pathological Society of London and of the Harveian Society of London), Dr. Peter Horrocks (President of the Obstetrical Society of London), Dr. Urban Pritchard (President of the Otological Society of the United Kingdom), and Mr. J. Y. W. MacAlister (the resident librarian of the society). Dr. Theodore Williams proposed the toast of "Our Patron" His Majesty the King, the third sovereign who had been graciously pleased to be patron of the society. After the toast of

"Her Majesty the Queen, the Prince and Princess of Wales, and the other members of the Royal Family," the Chairman proposed "The Royal Medical and Chirurgical Society." He said that the society had its foundation in 1805 when owing to dissensions in the old Medical Society the new society was formed. Since that date it had steadily advanced in prosperity, meeting at first in the Freemasons' Tavern, afterwards in Berners-street, and in 1890 moving to its present quarters in Hanover-square. The financial condition of the society was most satisfactory. Mr. Alfred Willett (the President Elect) proposed the health of the guests. The toast was responded to by Sir Walter Sendall and by Dr. Conan Doyle—the latter of whom said that he felt like a deserter dining with his own regiment and as a full private dining at the officers' mess. The study of medicine was one of the best trainings that a man could go through, and though he was far from wishing to people England with amateur doctors, he thought that the study of physiology, medicine, and surgery for a few years gave a man the truest basis for life and thought. He held in the highest esteem the parish practitioner, who without hope of fame, without hope of riches, was yet content with duty done. Dr. George Ogilvie, in a humorous speech, showed how the invasion of England by the Scot dated from the Saurian period and had continued to the present day. England had benefited much by the invasion of the Scot, for he had brought with him several excellent things, among which was the game of golf which had introduced an excellent vocabulary into the English language. The Scot has also brought with him a song "Auld Lang Syne," which had done more to bring about the federation of the Empire than had Mr. Chamberlain. Sir William Turner regretted the absence of the President and expressed his deep sympathy with him in his family affliction. He proposed the health of the chairman of the evening. Dr. Theodore Williams replied, and the guests separated after a most enjoyable evening.

INTRA-CEREBRAL INJECTION OF ANTITETANIN IN THE HORSE.

IN the February number of the *Journal of Comparative Pathology and Therapeutics* there is a very interesting article by Mr. Sydney Villar, F.R.C.V.S., illustrating the value of the intra-cerebral injection of antitetanin in the treatment of tetanus in veterinary practice. The patient in the first case was a small pony showing visible signs of tetanus when admitted to Mr. Villar's infirmary on June 9th. It had walked a distance of three miles and was somewhat distressed on arrival. The initial treatment consisted in keeping the patient quiet in a loose box and administering a little belladonna in the drinking water. As trismus became very much more marked, on June 18th intra-cerebral injections of antitetanin were resorted to. Under antiseptic precautions and cocaine anæsthesia a small circular hole was made through the right parietal bone with an Archimedean drill, and by means of an ordinary hypodermic syringe three cubic centimetres of antitetanin were injected right into the substance of the cerebral hemisphere. The wound was dressed with iodoform and cotton-wool. 24 hours later there was a marked abatement of the tetanic symptoms which gradually disappeared within the next 10 days, the pony making an excellent recovery. On August 7th there was only a small scar to indicate the seat of operation. The animal was a trick pony belonging to a travelling circus, and it had not forgotten its performance, showing that its mental capacity was not affected in any way, and at no time was there any sign of ill effect from the injection into the brain substance. The second case was that of a hunter which had received a punctured wound in the heel on Nov. 2nd. Tetanus supervened on the 23rd, and by the 26th trismus was very marked, the spasms being very severe. On this date eight cubic centimetres of antitetanin were injected directly into the cranium to a depth of two inches. Immediately after the withdrawal of the needle the horse became very violent and appeared as though it were in an epileptic fit. These symptoms passed off in about five minutes, but it was impossible to dress the wound on the forehead thoroughly. The next day the symptoms had considerably lessened and on Dec. 8th the horse was able to go to walking exercise. As a general rule, if recovery takes place, the horse is at least a month or six weeks before being able to leave the infirmary. In both the above cases the duration was scarcely three weeks. These are the first cases which have been recorded in veterinary practice in England. Although a definite opinion can scarcely be formed from two cases, the results are sufficiently encouraging to show that this treatment is worthy of an extended trial.

THE LIVERPOOL SCHOOL OF TROPICAL MEDICINE: DEPARTURE OF MAJOR RONALD ROSS FOR WEST AFRICA.

MAJOR RONALD ROSS, F.R.S., late I.M.S., sailed from Liverpool on Feb. 22nd to join the expedition which is now engaged in sanitary work on the West Coast of Africa under the auspices of the Liverpool School of Tropical Medicine. Major Ross has gone out to make an examination of the drainage operations now being carried out in Sierra Leone, and he intends also to prepare statistics as to how the work is progressing. He also purposes to inquire carefully whether any change for the better has taken place in the health of the natives. Among other places he will proceed to the Gambia to examine the drainage there. Sir George Denton, the Governor of the Gambia, and his staff have been engaged for some time in carrying out drainage operations in that colony. Dr. Logan Taylor has been in Sierra Leone for the past eight months and fortunately he has not suffered from malaria—a fact which points to the success of the drainage operations carried out under his directions. Major Ross intends to return to Liverpool at the end of April. Prior to his departure for West Africa he expressed the opinion that if the Government continued the work of drainage and pushed forward other improvements the health of the natives would be considerably improved and the health of the resident Europeans in West Africa would also be safeguarded. Major Ross was seen off by Mr. William Adamson (vice-chairman of the school), by Professor R. W. Boyce of University College, Liverpool, by several students of the school, and by a number of gentlemen who have taken an interest in the work of the expedition.

INTRACRANIAL PRESSURE AND CEPHALALGIA IN BRIGHT'S DISEASE, WITH REFERENCE TO TREATMENT.

DR. G. SCHERB in the *Revue Neurologique* of Jan. 1st last refers to the intense and agonising headache and cerebral toxæmia of Bright's disease and deals with the method of treatment by lumbar puncture which he believes to give almost complete relief. He refers to the recent observations of Dr. Marie and Dr. Guillain of Paris who in the case of a patient suffering from intense cephalalgia of the kind alluded to above obtained great relief after lumbar puncture, and he cites a second case, confirmatory of the same, published by Legendre. Dr. Marie has since then collected five other cases similarly and successfully treated for intense cephalalgia in Bright's disease and Dr. Scherb adds another rare and interesting case illustrating the method and results of treatment. The patient was a man, aged 49 years, who suffered from Bright's disease with intense headache and pain in the occipital region of the head which utterly prostrated him

and incapacitated him from work. Various hypnotics had been administered without success, and when the patient was admitted into hospital under Dr. Scherb on August 3rd, 1901, his attack had already lasted a fortnight. He was also troubled with vertigo and vomiting. The knee-jerks were exaggerated but there was no Babinski reflex. Ophthalmoscopic examination showed slight papillary stasis but no neuritis or retinitis. The pulse was of high tension and the heart-beats were 90 per minute. The arteries were tortuous and slightly atheromatous. The urine contained four grammes of albumin per litre. He was placed on milk diet but this gave no relief or amelioration of symptoms. Lumbar puncture was accordingly performed and 20 cubic centimetres of fluid were slowly drawn off. Microscopic examination showed it to be free from corpuscles. The patient improved within a few hours and on the following day the headache had entirely disappeared. The degree of albuminuria was lessened by milk diet and diuresis was increased. Subsequently he had a second attack of intense cephalalgia like the first, with the addition of a rapidly developed œdema of the face and scalp, probably of angioneurotic character. Lumbar puncture was again performed and 30 cubic centimetres of fluid were withdrawn, after which the cephalalgia subsided. The patient, however, eventually became comatose, with marked constipation, vomiting, and fœtid breath, and died on Sept. 30th while in this state. Dr. Scherb points out that the withdrawal of the cerebro-spinal fluid acts in two ways—viz., first by relieving the intracranial pressure, and, secondly, by diminishing the cerebral toxæmia, both of which are factors in the production of such forms of intense cephalalgia as occur in Bright's disease, and in view of the great relief which follows such treatment he recommends its adoption in cases similar to the above.

SMALL-POX IN THE UNITED STATES.

THE Marine Hospital Service reports from Washington that there were on Feb. 10th last 12,123 cases of small-pox undergoing treatment in the United States. In 1901 at the same period there were but 4359 cases of small-pox throughout the States, and the deaths for the preceding week due to this cause numbered 55. This year during the corresponding week the deaths from small-pox reached the figure of 290. Thus, in the United States as well as in England there are this year conditions prevailing that seem specially to favour the spread of small-pox. Attempts are being made to cope with the disease by imposing quarantine on entire households. For instance, at Philadelphia 85 men have been quarantined at the Samaritan Inn because a case of small-pox was reported to have occurred among them. The police at once established patrols in front and at the rear of this establishment. The inmates were informed that they would be kept prisoners till the quarantine was removed, and that they would be fed at the public expense. This is precisely the same process that the Sultan adopted at Constantinople for all houses or blocks of dwellings in which one or more cases of cholera had occurred. Our Special Sanitary Commissioner, who visited some of these places in 1894, described[1] how the inhabitants regretted the cessation of the cholera epidemic, for they had never before been so well fed. This system, however, is far from meeting with general approval at the hands of the medical profession in the United States. Dr. Shoemaker, chairman of a special committee appointed at Philadelphia to investigate the question, holds that, with proper methods of fumigation and vaccination, quarantine is not necessary and this view is endorsed by three of the five physicians appointed on this committee. They will urge on the city authorities that when the patient has been removed, the other inhabitants of the house have been vaccinated, and the premises have been thoroughly fumigated, it is unnecessary to coop up the dwellers in quarantined houses. Dr. Benjamin Lee, secretary of the State Board of Health, is also an opponent of long quarantine but would compel the people who live in the house where a case had occurred to report themselves at specified times during the period of incubation to a physician appointed for that purpose by the health authorities.

[1] THE LANCET, Nov. 26th (p. 1239), and Dec. 1st (p. 1301), 8th (p. 1370), and 15th (p. 1442), 1894.

THE EYESIGHT OF SCHOOL-CHILDREN.

THE medical officer to the Derby School Board, Dr. L. H. Bryson, in his annual report for 1901 deals incidentally with the question of defective vision. He says:—

> I have made 26 visits to the schools, and reported on them separately in my half-yearly reports. Over 700 children were presented for inspection at these visits, two-thirds of whom were cases of defective eyesight. In dealing with these cases, the method adopted is to select the worst, and recommend them to see an oculist. I hope shortly to have a circular printed to send to the parents of those children, which will further impress upon them the necessity of having the eyes specially attended to. On account of their number it is scarcely possible to have the whole of the children with defective eyesight tested and provided with glasses, nor is it necessary, as in many of the cases the defect is slight, and not progressive, and many of the children will not have occasion to use their eyes for fine work after leaving school. In others, again, the effect is due to general malnutrition, or to their not having learned to properly use (accommodate) their eyes, and such cases may be expected to improve.

With reference to the question recently raised in London of having special ophthalmic surgeons to the School Board appointed, Dr. Bryson points out that it takes from 10 to 30 minutes properly to correct defects of vision; that in the case of children refraction cannot be properly estimated without the use of a mydriatic, and that the employment of this without the permission of the parents amounts to a technical assault. Dr. Bryson concludes this portion of his report by stating that instead of treating individual children "general prophylactic precautions must be taken and individual advice may be given, and this is being done in the Derby schools with satisfactory results."

THE HUNTERIAN SOCIETY.

EPONYMOUS scientific societies or lectures must often seem to the orators and lecturers connected with them to be hard task-masters. It is difficult year by year to find something novel to say about any one man. The great Harvey in founding the Harveian Oration had in his mind that the benefactors of the Royal College of Physicians of London should be commemorated. Unmindful of this mercy, however, the Harveian orator not infrequently rather goes out of his way to commemorate, not so much benefactors in general as Harvey himself. But the Hunterian orator or lecturer has not so much latitude, and we are struck with the skill with which year by year the various improvements and new-old theories of medicine are made to depend from Hunter. Truth, it may be, is a gem with many facets, and Hunter, if anyone ever did, sought the truth. On Feb. 12th Dr. Arthur T. Davies delivered the Hunterian Oration of the Hunterian Society, taking for his subject Organo-therapy. At first sight Hunter and organo-therapy seem as wide apart as the poles. But the difficulty was easily surmounted. Hunter made various observations upon the influence of castration and the periodical changes in the sexual glands of birds and certain mammals. Hence he was led to consider that the testis had an internal secretion. Here at once is the *rationale* of organo-therapy. With equal skill Mr. Reginald Harrison in his Hunterian Lecture, delivered before the Hunterian Society on Feb. 26th, found in Hunter's work and practice lessons for the modern surgeon. The radical cure of hydrocele, the treatment of urinary fistula, and the avoidance of "catheter life" are all even nowadays deeply influenced by John Hunter, and modern surgeons in their treatment of diseases of the urinary apparatus are

but carrying out the principles laid down by him. In forthcoming numbers we hope to publish both the oration and the lecture referred to.

THE DISTRIBUTION OF PLAGUE.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Feb. 21st states that for the week ending Feb. 20th there were 13 cases of bubonic plague, of which 11 proved fatal. As regards Egypt during the week ending Feb. 16th 8 cases and 8 deaths from plague have been reported from all Egypt. 6 cases and 7 deaths were reported from Tantah and 2 cases and 1 death from Kom-el-Nur, a village near Mit-Ghamr. All these cases and deaths occurred among the native population. 5 of the deaths at Tantah and the one at Kom-el-Nur occurred out of Hospital.

THE VACCINATION LEAGUE.

THOSE who are desirous of obtaining free literature dealing with the advantages of vaccination, or of organising popular illustrated lectures on the subject in their respective districts, should apply to the offices of the Vaccination League, 110, Strand, W.C. Among the influential names recently added to the long list of vice-presidents of the Vaccination League are those of the Bishop of London, Archdeacon Sinclair, and Lord Newton. It will be remembered that Lord Newton recently introduced a Bill into the House of Lords on the subject of Vaccination.

ST. BARTHOLOMEW'S HOSPITAL AND CHRIST'S HOSPITAL.

LORD BALFOUR of BURLEIGH, the appointed arbitrator in the dispute between the authorities of St. Bartholomew's Hospital and Christ's Hospital, gave his decision on Feb. 25th. St. Bartholomew's Hospital is given an area of 67,680 square feet at a cost of £238,781. Our readers will remember that in our issue of August 11th, 1900, p. 408, we published a map of the area in dispute. The area now awarded is slightly in excess of that marked in the map. St. Bartholomew's Hospital originally offered £117,000 for about 1½ acres. It now has to pay £238,781 for an area of a little more than 1½ acres, being an excess of £121,781.

TYPHOID FEVER AT PHILADELPHIA.

FOLLOWING upon the winter rains, the disturbance of mud, and deposits by the torrential flow in the water-courses, another epidemic of typhoid fever has broken out in Philadelphia; and in the havoc achieved this disease is running a neck-to-neck race with diphtheria and small-pox. The city Bureau of Health reports that during January 334 cases of diphtheria, 433 cases of small-pox, and 432 cases of typhoid fever were notified. But during the week ending Feb. 1st there were 201 cases of typhoid fever and this already outstrips last year's record. The worst weeks in 1901 were those ending on May 25th with 142 cases and on August 31stwith 152 cases. The water-supply is considered to be the cause of the present as it was of the previous epidemic, and 600 men are now employed, working day and night, in the construction of new filtering beds which are to yield 6,000,000 gallons every 24 hours. But when the beds are completed the water must remain there for some time so as to press down the filtering materials and to impart sufficient compactness to ensure perfect filtration. Even when this is achieved the water can only be delivered at the low levels. Another filtering bed of the same capacity is in course of construction at a higher level, and it will be necessary to pump the water up to this point. These more extensive works will not be completed till the month of May at the earliest, so that there is still ample time for the epidemic to spread. Considering the emphatic warning given by the numerous epidemics of typhoid fever which have occurred at Philadelphia it is difficult to explain why so important a city has been left for so long without a proper and safe water-supply.

BRITISH CHILD-STUDY ASSOCIATION.

THE report of the committee of the London branch of the British Child-Study Association for the year 1901, of which Dr. Fletcher Beach is president, has just been issued. It states that 115 new members joined the branch during the past year, bringing the total of the roll to 216. The object of this association is to gather and to spread information about the life and training of children by (1) collecting records of careful observations of individual children; (2) collecting personal reminiscences of childhood; and (3) tabulating the results of studies of papers written by children. These collections and the results so obtained are carefully studied and as far as possible conclusions are drawn from them. Various circles for study are also formed in connexion with the society, and lectures are delivered once a month in the Ruskin Room of the Sesame Club, Dover-street, Piccadilly, W. The subscription is 2*s.* 6*d.* a year, which entitles the member to a copy of the *Paidologist* the official organ. We regret to note that the subscriptions last year did not cover the expenses. An association which does such good work ought not to be in need of funds, and we feel sure that if the association were better known to the public adequate support would be forthcoming.

THE ANNUAL DINNER OF THE WEST LONDON MEDICO-CHIRURGICAL SOCIETY.

THE West London Medico-Chirurgical Society held its annual dinner on Feb. 19th at Frascati's Restaurant, Oxford-street, W. The President of the society, Mr. A. Cooper, occupied the chair. The Director-General of the Army Medical Department, Surgeon-General W. Taylor, C.B., in acknowledging the toast of "The Imperial Forces," proposed by Mr. C. B. Keetley, said that he did not think that his was the only department that had shown shortcomings, and he was sure that the officers and men of the Royal Army Medical Corps could hold up their heads equally well with the members of any other department of the army. The officers of his department were members of the medical profession and they felt that the sympathy which they received from its civil members was their greatest reward. Dr. W. H. Allchin (President of the Medical Society of London), who replied to the toast of "The Kindred Societies" given by Mr. Swinford Edwards, referred to the relationship that existed between the Medical Society of London and the West London Medico-Chirurgical Society in that both were founded to embrace all branches of the profession. Mr. L. A. Bidwell proposed "The Guests" which was replied to by Sir J. Crichton Browne who discoursed upon the appalling flood of medical literature. Daylight and midnight oil, he said, could not suffice to carry a man through even a small portion of the works published, and he was compelled, like a swallow, to flit here and there and to pick up a miscellaneous cropful of undigested medical and surgical information. The toast of "The President" was proposed by Dr. James B. Ball and that of "The Officers of the Society" by Dr. F. J. McCann. The latter was acknowledged by Mr. H. Percy Dunn, the editor of the journal of the society, and by Dr. L. C. T. Dobson, the senior secretary, who said that at their next meeting the number of the members would be over 600. Among the guests were Sir William Church, President of the Royal College of Physicians of London; Mr. H. G. Howse, President of the Royal College of Surgeons of England; Mr. W.

Watson Cheyne, President of the Pathological Society, and Mr. A. D. Fripp. A very enjoyable part of the evening's entertainment was contributed by Dr. A. G. Haydon who gave a violin solo.

PRIMARY INTESTINAL TUBERCULOSIS IN CHILDREN.

DISCUSSING the question of the transmission of tuberculosis from cattle to the human subject Dr. David Bovaird, jun., of New York, remarks on the scantiness of the evidence to show that tuberculous milk has produced tuberculosis in children. In a paper read before the New York Academy of Medicine which is published in the December number of the *Archives of Pediatrics* he says that he has not been able to find records of more than 22 such cases, the references to which he gives. Moreover, according to most authorities, primary tuberculosis of the intestine is rather unusual. German and French reports unanimously take the view that when tuberculosis attacks children the infection enters by the respiratory tract in almost all cases. Three American reports, based on a total of 369 cases, all from New York city or its environs, give five cases of infection by the intestine—i.e., a fraction over 1 per cent. These reports were published in 1891 by Dr. Northrup, in 1896 by Dr. Holt, and in 1899 by Dr. Bovaird. The English reports present a striking contrast to these figures, for out of a total of 748 cases, 136, or 18 per cent. were cases of primary intestinal infection. Of the articles referred to by Dr. Bovaird as the English reports, one by Dr. G. S. Woodhead appeared in THE LANCET of July 14th, 1888, p. 51; another by Dr. J. W. Carr in THE LANCET of May 12th, 1894, p. 1177; and a third by Dr. L. G. Guthrie in THE LANCET of Feb. 4th, 1899, p. 286.

THE International Dermatological Congress, which was originally meant to take place in 1903 in Berlin, has been postponed till 1904, so that it may not clash with the General International Medical Congress which is to meet in Madrid in 1903. The International Dermatological Congress will meet in September, 1904, under the presidency of Professor E. Lesser. The general secretary of the Congress is Dr. O. Rosenthal, Berlin, to whom all communications should be addressed.

ON Wednesday, March 5th, at 8.30 P.M., at the rooms of the Medical Society of London, Dr. G. V. Poore, the President of the Life Assurance Medical Officers' Association, will shortly review the work of the society and will introduce a discussion on the Influence on Life Assurance of a History of Appendicitis and Insanity.

LONDON'S PROTECTION AGAINST SMALL-POX.

A SPECIAL INQUIRY MADE FOR THE LANCET.

ALTHOUGH more than a century has elapsed since Jenner placed in the hands of the medical profession an infallible protection against small-pox the authority in which is vested the control of infectious diseases in London is to-day pressing forward its preparations with all speed to cope with the not unlikely event of a greatly increased prevalence of the malady in the spring of this year. If we have to confess that our effort to eradicate small-pox from our midst has, thanks to the action of the anti-vaccinationists, been a failure we can at least claim with truth that we have not only enormously diminished the extent of its habitual prevalence in the community but also have lengthened the intervals between its epidemic outbursts.

We who live in the twentieth century, perhaps, scarcely realise the large share of deaths claimed by small-pox annually in pre-Jennerian times. In the eighteenth century Hahn asserted that 80 out of every 1000 deaths were caused by variola. De la Condamine held it responsible for 10 per cent. of the deaths in France; while Cohn stated that its death toll numbered between 60,000 and 72,000 annually in the same country. In London the average death-rate per 1,000,000 from all causes in 1771–1780 was 50,000; and from small-pox 5020 per 1,000,000. From 1872 to 1890 the annual deaths per 1,000,000 from all causes averaged 21,400; and from small-pox during the same period 178. Since the introduction of vaccination the fraction contributed by small-pox to the total mortality has been reduced from $\frac{1}{10}$th to $\frac{1}{120}$th.

As regards its epidemic prevalence in London we find that during 47 years of the seventeenth century there were 15 outbreaks, and during the whole of the eighteenth century 34 epidemics. This gives a periodicity of one year in every three. The records of other cities show but little improvement on this state of affairs. Thus in Copenhagen in the latter half of the eighteenth century there were epidemics once in four years, in Geneva once in five years, in Edinburgh once in three years, and in Boston, U.S.A., once every fourth year. Coming to our own times we find that since 1870 there have occurred in London epidemics in 1871–1872, 1877–1878, 1881, 1884–1885, and 1893. So that during the last 32 years we have passed through five epidemics and are now on the threshold of a sixth. This is a gain of which we cannot boast much.

During the first five months of 1901 small-pox may be said to have been practically absent from London. From March up to May 29th not a single case occurred. On the last-mentioned day a patient was admitted from Islington, on June 10th one from Whitechapel, on June 29th one from Hackney, and on June 28th and 29th one on each day from Wandsworth. During July and up to August 21st single cases were notified from various parts of London. From this date onwards the disease obtained a hold on St. Pancras and Marylebone, and very soon afterwards cases were admitted from every one of the 31 Poor-law parishes and unions comprising the Metropolitan Asylum District.

In taking its rise during the late summer and spreading over London through the autumn and winter the present epidemic is considered to have pursued a most unusual course. In an ordinary way small-pox is most prevalent during the first seven months of the year, and especially so in the spring. Thus, during 1893 the bulk of the patients were admitted between January and the end of July. During that epidemic the largest number of patients under treatment on any one day occurred on May 15th when they reached 571; and the largest number—viz., 536—were also admitted to the hospitals during the same month. From the report of Dr. Brooke, who was stationed at the wharves in 1893, we gather that the number of admissions from March to July were for each month respectively: March, 241; April, 413; May, 511; June, 312; and July, 200.

Dr. Long, the second medical officer of the river ambulance service, who compiled the history of the epidemic of 1893, placed its start at the end of October, 1892. From that date it gradually increased until, by the end of January, 1893, there were foci of infection everywhere east of a line running north and south through Euston Station. Not long after this the disease had cropped up everywhere in the metropolis. As regards the seasonal prevalence a very similar course was followed in the other epidemics since 1871. If we may argue, therefore, from our experience in former years we must look forward, not to a decline, but to a serious increase of small-pox in the near future.

As small-pox is not only permanently established in London but is liable to attack the city in epidemic form it is necessary that the Metropolitan Asylums Board should make provision for the reception of patients, not only when the disease prevails to an average extent, but also that its resources should be sufficiently elastic to enable it to cope successfully with the most formidable of epidemics. What the exact amount of accommodation ought to be which the Board should have at its disposal is, however, by no means an easy question to answer, as the fluctuations in the amount of small-pox prevailing are enormous. Thus in 1884 and 1885 there were over 6000 cases under treatment annually; whereas in 1889 and 1898 only five persons suffered from this disease during each of these years. Nevertheless, to be of real use the Board must keep an isolation hospital in constant readiness, whether there are patients to occupy it or not. It is calculated that this provision will cost London £10,000 per annum—apparently a considerable outlay, but small when we remember that the

epidemic in 1884 cost about a quarter of a million of money from the loss of lives and dislocation of trade.

In July, 1896, the Metropolitan Asylums Board submitted to the Local Government Board plans for the erection of a permanent small-pox hospital at Joyce Green for a total number of 940 beds—a number which the Board considered a not unreasonable provision for future contingencies. The Local Government Board, however, at that date declined to consider the proposal and held that the erection of pavilions should be limited to the accommodation of 400 patients only, any extra room to be provided for by the erection of temporary buildings in case of an epidemic. With this partial sanction of its scheme the Metropolitan Asylums Board was forced to rest content and instructed its architect to press on at once with the erection of 10 blocks for the reception of 436 beds, and with buildings for the accommodation of officers, nurses, and servants, kitchen and laundry. At the same time provision for heating, lighting, water, and drainage was provided for on a scale suitable for 940 beds. In November, 1901, in the face of a growing epidemic, the sanction of the Local Government Board was obtained for the erection of the remaining 12 blocks to hold 504 patients.

The Joyce Green Hospital stands upon an inclosure of 100 acres of ground and consists of 22 pavilions built on each side of the arms of a wide V. There will be four isolation blocks capable of holding 60 patients whom it may be necessary to remove from the general wards for one reason or another. The wards are of an oblong shape and will contain 20 beds each with an adjoining room for two more patients who may be delirious or too seriously ill to be amongst the rest. There is a nurse's room at the end of each ward from which she is able to command a view of the whole through glass windows. The lavatories and a bath-room are separated from the ward by a lobby with cross ventilation. There are other blocks for the medical staff and employés and a house for the nurses in which each nurse and assistant nurse will have her own room. The hospital is lighted by gas and warmed by steam. It is provided with its own destructor furnace and a Lyons disinfecting chamber. The hospital will be supplied with water from the company's mains, but is provided with a reserve tank capable of storing 50,000 gallons of water. The total cost of the building will be £299,798, or about £320 per bed. It is probable that the first section of 10 blocks will be ready to receive patients in six months time. It is therefore doubtful whether this hospital will be of much use during the present epidemic.

We have seen that in 1896 the Metropolitan Asylums Board considered that the minimum permanent provision which it ought to have at its disposal for small-pox should be 940 beds. Through no fault of its own the execution of this scheme was delayed; and at the outbreak of the present epidemic in the autumn of last year the Board found itself face to face with the unpleasant fact that it had only 250 available beds for small-pox at the hospital ships. The Royal Commission in 1882 gave it as its opinion that about 2700 beds should be provided for small-pox in London, the population of which then numbered about 3,900,000. Obviously, for the present epidemic spreading amongst a population of 4,500,000, at least that number would have to be got ready. The Board's only other available hospital, the Upper Gore Farm, was at that time being used for fever patients. In the early autumn this hospital was cleared of those patients and disinfected; and on Oct. 30th small-pox patients were admitted to it. On Nov. 2nd the Board ordered the erection of additional staff and isolation quarters at Gore Farm, and thereby freed the rest of the hospital for small-pox cases and secured a total of 1000 beds, making in all 1250 beds available.

As small-pox showed no signs of decreasing the Board on Nov. 2nd determined on the erection of a temporary hospital at Long Reach, capable of holding 300 patients. The Long Reach Hospital is built close to the banks of the river and consists of 12 blocks with additional pavilions for administrative and isolation purposes. Each of the 12 blocks contains 24 beds and is built with a double wooden floor with felt between. The walls are of weatherboarding lined with felt and finished on the inside with matchboard. The roof is also lined with felt and covered with a thick waterproof cloth. The blocks stand on footings of brick resting on a solid bed of concrete. Heating is by steam-pipes and the lighting is by gas. Close to the floor and near the steam-pipes are inlet ventilators, the outlet ventilators being the win lows and shafts in the roof.

In the early part of January, 1902, the Board further ordered the erection of the Orchard Hospital for 800 beds on the Joyce Green estate. This hospital will be a temporary wooden structure built in pavilions arranged in three parallel lines, very much after the pattern of the hospital at Long Reach. The Shone system will be adopted in the disposal of the sewage of this hospital.

Finally, the Lower Gore Farm Hospital with 190 beds will also be pressed into the service of the small-pox hospitals, and orders for its extension have already been given, which when completed will bring the Board's total available small-pox provision to 3200 beds. The beds will be distributed as follows: hospital ships, 250; Long Reach, 300; Orchard, 800; Upper Gore Farm, 1000; and Lower Gore Farm, 850.

The present epidemic will probably be the last occasion on which the ships will be used as small-pox hospitals. We may therefore say a few words here as to their history and structure and as to the reasons that have induced the Board to discontinue their use. The hospital ships consist of three vessels, the *Atlas* and *Endymion*, which were purchased in 1881, and the *Castalia*, which was purchased in 1884. The two former were originally built for the navy, and the latter was a twin ship intended for service between Calais and Dover, for which she proved unsuitable. The *Atlas* and *Castalia* are used for patients and the *Endymion* for administrative purposes only. The three ships are connected together and moored in the Thames off Long Reach. Upon the upper deck of the *Castalia* five huts have been erected obliquely across the long axis of the vessel. These huts form the wards of the upper hospital, the lower hospital consisting of one single ward which runs the whole width of the vessel. There is one isolation room on the lower deck and two on the upper deck. At each end are lavatories, bath-rooms, reception rooms, &c. A laundry and other administrative buildings have been erected on shore close to the ships. Time and weather have told heavily on the ships, and they now stand greatly in need of considerable repairs. The extent of the latter cannot be gauged until the vessels have been dry-docked and overhauled thoroughly, but it is certain that if efficiently carried out several thousand pounds would have to be expended. The Board are of opinion, however, that for a small outlay the ships can be patched up sufficiently to enable them to continue in use until the permanent hospital at Joyce Green is ready. Moreover, ships are an excessively costly form of hospital to administer, their upkeep, exclusive of patients' maintenance, entailing an annual expenditure of £9500. We might mention, amongst other disadvantages, the risks of delirious patients jumping overboard, the possibility of collision with passing vessels, and the dangers of fire. All these accidents have happened during the period the ships have been in use. Again, quite recently they have been accused of disseminating small-pox at Purfleet and Orsett, and there seem to be good reasons in support of this view, as appeared from the report of Dr. J. C. Thresh which was published in THE LANCET of Feb. 22nd, p. 495.

Not the least serious and important of the questions relating to small-pox is that of the disposal of the dead. The Board have decided that this shall be by burial within the grounds of the Joyce Green Hospital. For this purpose a site three acres in extent has been fenced off at the south-east corner of the estate and laid out as a cemetery. At the present time it is impossible to see what other course the Board could have adopted than earth-burial. Possibly at some future time, when public opinion has been educated up to it and relatives' feelings will be less shocked by the proposal, a scheme may be formulated for the disposal by cremation of the bodies of all patients dying not only from small-pox but from other infectious diseases.

We may now briefly describe the steps whereby a patient suffering from small-pox is removed from his home and obtains admission to the Board's hospital. On receiving notice of the occurrence of a case of small-pox in a house within the Metropolitan Asylums district an ambulance with a nurse is despatched to the address. The patient, wrapped in blankets, is placed lying down at full length in the ambulance and is driven to the South Wharf, Rotherhithe. Here he is inspected by Mr. W. McC. Wanklyn, an expert in the diagnosis of small-pox. If the patient is found not to be suffering from small-pox he is sent back. Should the case be doubtful he is detained at the shelter until such time as the diagnosis becomes clear. If the case be one of undoubted variola he is carried on his stretcher and placed on board a river ambulance steamer and conveyed down the Thames to the ships at Long Reach. Here he is

put to bed in one of the wards. A mild case is in a few days' time again put on board a steamer and carried to the opposite shore, whence he is conveyed by ambulance to the Upper Gore Farm Hospital. Bad cases are detained at the ships and when convalescent are drafted on to Gore Farm. When the permanent hospital at Joyce Green is finished and the ships are no longer in use the patient on arriving at the pier, Long Reach, will be lifted on his stretcher in a tramcar, and conveyed either to Joyce Green or, if there be no room there, to the Orchard Hospital, with which it is connected by a branch line. A patient will thus be carried on a stretcher from his own home in London and deposited in the Board's hospital at Dartford without being disturbed from the recumbent posture.

Every visitor to a patient—visitors being allowed only in the case of a patient who is dangerously ill—is pressed to be vaccinated, but acceptance of vaccination is not insisted on as a *sine quâ non* before seeing the sufferer. The precaution, however, is taken of forwarding the names and addresses of all visitors, whether vaccinated or not, to the medical officer of health in whose district they live.

The wealth of clinical material in the Board's small-pox hospitals has up to the present been practically wasted as a means of instruction, but arrangements are now being made for teaching medical students and qualified practitioners the diagnosis and treatment of variola by demonstration of typical cases. Every attendant at these classes must satisfy the medical superintendent that he has been efficiently revaccinated fairly recently or is protected otherwise against small-pox, and must observe the rules regarding clothing and disinfection while in the hospital.

We have endeavoured in this article, after sketching the history and growth of the present epidemic, to show what resources the Board had at its command to cope with the outbreak at its start and to trace the steps by which the managers of the Hospital Committee have strenuously endeavoured to grapple with the storm that threatened to overwhelm them. From a personal inspection of the Board's hospitals we can testify that the managers have the epidemic well in hand and that there was no overcrowding at the hospitals. We feel sanguine that the Metropolitan Asylums Board will accomplish the ideal it has set itself—viz., to extend its protection to every patient who seeks its help.

THE METROPOLITAN WATER-SUPPLY.

THE EAST LONDON WATERWORKS COMPANY: SOME QUESTIONS FOR THE PRESIDENT OF THE LOCAL GOVERNMENT BOARD.

IT may be useful at the present time to recall certain facts in regard to the history and present condition of this company. From these it will be seen that—

1. The sources of supply of the company are inadequate.

2. The arrangements made by the company for the purification of the water which it abstracts from the Thames are unsatisfactory.

1. In regard to the first point it may be well to give a brief quotation from the last published annual report of the Water Examiner appointed by the Local Government Board.[1] It may not be out of place here to point out that the reports of this gentleman usually place the proceedings of the companies in the most favourable light possible. To cite one example only, from the last annual report, given in regard to the East London Company (p. 245), it is said: "The waste of water in the district is very considerable and there is great difficulty in controlling it." This statement evidently came from officials of the company, whose ideas of waste do not always correspond with those of water consumers. The fact that the East London Waterworks Company has failed in successive years to supply its customers may, however, best be given in the words of the official record: "In 1895 and 1896 and again in 1898 and 1899 ..... the East London Company owing to the inadequacy of their storage reservoirs were unable to deliver from their own sources of supply sufficient water to meet the requirements of their district. During the summer of 1895 an interruption in the constant supply took place which culminated on July 15th in the shutting off of the water-supply of the whole district, containing a population of 1,200,000, during 21 hours out of every 24." A constant service was not fully restored until Oct. 8th. In the year 1896, on July 17th, the company reverted to an intermittent system of supply, which was continued until Sept. 19th. On August 22nd the supply given again became intermittent and was reduced to two periods of three hours each daily. This state of things continued until Sept. 3rd, when the daily supply was further reduced to two periods of two hours each. Constant service was not given throughout the whole district until Dec. 14th. The condition of things in the East-end would have been more distressing than it actually was had it not been that water was obtained from some of the other metropolitan companies. The New River Company did not take its full draught from the Lee and the water was allowed to flow down to the East London Waterworks Company's intake. The Southwark and Vauxhall Company pumped water through a main which was quickly laid through the Tower Subway for the supply of the low-lying district just north of the Thames. The Kent Company sent some water through the Blackwall Tunnel for the supply of the Limehouse district. From July to November inclusive the East London Waterworks Company received no less than 1,158,010,000 gallons of water from sources other than its own; "but it may nevertheless be assumed," says the Water Examiner, "that during this period the supply was short of the demand to the extent of from 700 to 750 million gallons." During the summer of 1899 the sources of the East London Waterworks Company again proved inadequate, and from July to November inclusive no less than 1,898,846,000 gallons were received from other companies. Since this date improvements have been made, but the sources of supply of the company are still insufficient, as a study of the periodical reports of the Water Examiner clearly shows. The annual report will not presumably be published for some months, and the table which is given here has been compiled from the monthly reports.

Table showing the Sources of the Water Supplied by the East London Waterworks Company and the Average Daily Amount derived during each Month of the Year 1901. (Compiled from the Tables given in the Monthly Reports of the Water Examiner to the Local Government Board.)

Month.	Sources.					
	Lea and storage.	Thames.	Hanworth Springs.	Wells.	Wells "per New River Company."	Total.
Jan. ...	23,559,000	7,731,000	1,543,000	6,628,000	—	39,521,000
Feb. ...	23,260,000	8,469,000	1,390,000	5,837,000	—	38,956,000
March	27,736,000	5,232,000	1,265,000	3,720,000	—	38,003,000
April ...	28,561,000	5,103,000	1,345,000	3,773,000	—	38,782,000
May ...	27,969,000	6,489,000	1,512,000	5,531,000	—	41,521,000
June ...	21,277,000	11,963,000	1,521,000	10,367,000	—	45,133,000
July ...	11,663,000	19,126,000	1,575,000	12,143,000	2,636,000	47,146,000
August	10,724,733	19,107,000	1,519,000	10,642,000	3,745,267	45,738,000
Sept. ...	9,928,264	19,317,000	1,544,000	11,799,000	1,740,736	44,329,000
Oct. ...	12,298,000	16,058,000	1,595,000	12,000,000	—	42,051,000
Nov. ...	17,323,000	8,895,000	1,569,000	11,366,000	—	39,173,000
Dec. ...	19,859,348	7,151,000	1,524,000	8,207,000	443,652	37,155,000

2. The second point to which we wish to direct attention is that the arrangements at the Thames station of the company are inadequate to insure the purification of the water treated. The Thames water is pumped from Sunbury to Hanworth. The station at Hanworth possesses a "subsiding and storage reservoir" capable of holding 5,000,000 gallons of water. From this reservoir the water passes to the filter beds, of which there are six, which have a total area of five acres. It therefore practically happens that Thames flood water is introduced to the filter beds without undergoing the preliminary purification caused by subsidence.

Is the President of the Local Government Board aware that the Balfour Commission held that the water which flows down to the intakes of the companies "must be subjected to certain important processes before it can be brought into a suitable condition for delivery and consumption," and that

[1] Thirtieth Annual Report of the Local Government Board, 1900-1901. London, 1901.

"these processes consist of subsidence and filtration, and the quality of the water delivered depends largely upon the thoroughness with which they are carried out!" Is the President of the Local Government Board aware that it is the duty of his department to ensure that "every company shall effectually filter all water supplied by them within the metropolis for domestic use before the same shall pass into the pipes for distribution"? Has the President of the Local Government Board ever caused any examination to be made of the water supplied from the Hanworth station of the East London Waterworks Company during periods at which the river was in flood? If he has not done so, why has he not done so? If he has done so, when did he do so, and with what results?

INDIAN PLAGUE COMMISSION, 1898-99.[1]

WE have to apologise for the delay which has occurred in the publication of our notice of this very exhaustive and important report and of the series of blue-books connected therewith. All that we can fairly urge in explanation and mitigation thereof is to be found in such considerations as the nature of the task involving the consumption of much time and leisure in order to read the report and the difficulty of deciding as to the best method of arranging and expressing what we have to say on so large a subject in such a relatively small space as is at the disposal of a weekly journal to devote to it. We owe it to the President and members of the Commission and to our readers to state, however, that the length of our notice of these volumes is not to be taken as a measure of the time which we have given to the study of them. Still less should it be taken as fully expressing our opinion of the great value of the report and our high appreciation of the extent and very laborious nature of the work and duty undertaken by the Commission. In these respects it would be difficult to over-estimate what has been accomplished, for the report is so exhaustive that every point seems to have been considered and, as far as it was possible to do so consistently with our present knowledge, the whole of the ground has been covered by the inquiry, with the result that the report will always take its place as a most valuable and scientific work of reference in connexion with the history of plague.

Since the advent of epidemic plague in China and India a great deal has been learnt as to what to do, and still more, perhaps, as to what not to do, if we would steer clear of futility and needless sources of popular vexation and worry occasionally caused by public health measures. No one can read the report of the Commission without recognising that two of its striking features are the careful weighing of evidence and the spirit of moderation which it displays. Instead of seeking to reach some ideal standard which would be practically unattainable, or recommending methods and procedures which would be well adapted to, and could be effectively carried out in, a scientific laboratory, but would only prove vexatious and impracticable under the ordinary conditions of daily life, the Commission has, as it seems to us, exercised much care and moderation in this respect. It has striven, as far as possible, to avoid recommending a lot of measures which would prove an endless source of worry, irritation, and unpopularity to the governing and governed classes alike and which in the end might not repay the cost of carrying them out.

The Commission had Professor T. R. Fraser, M.D., LL.D., F.R.S., professor of materia medica in the University of Edinburgh, for its President, with four other members and a secretary. Some idea may be formed of the formidable nature of the task undertaken and of the work done from the following facts. The report itself consists of 540 pages and, with the minutes of evidence (printed in double columns), appendices, summary, indices, and glossary, comprises five blue books containing altogether between 2000 and 3000 foolscap pages. The Commission arrived at Bombay on Nov. 26th, 1898, and left India on March 25th, 1899, after having made numerous journeys to places in that country where plague had prevailed and having personally initiated and conducted many bacteriological and other researches. During its inquiry in India the Commission held 70 sittings for taking evidence and examined 280 witnesses—without counting those who were recalled for examination. On leaving India arrangements were made, moreover, for carrying on and completing certain bacteriological and other investigations which were still in progress. It will be seen, therefore, that the Commission spared no pains to make its inquiries as searching and thorough as possible. The questions into which it was directed to inquire by the reference from the Government of India were:—(1) the origin of the different outbreaks of plague: (2) the manner in which the disease is communicated: (3) the effects of the curative serums of Yersin and Lustig respectively; and (4) the effects of preventive inoculation.

The Commission was informed that it had been constituted for the purpose of conducting an investigation of a scientific character. It was found, however, that in the course of the inquiry a mass of evidence had been recorded which it was difficult to exclude but which could not be held to be strictly relevant to a purely scientific aspect of the subject. The Government of India, while desiring that the scientific side of the inquiry should be the main one, nevertheless accepted the necessity of taking evidence regarding facts of administration and left it to the discretion of the Commission to determine how far it was necessary to comment on the facts recorded in evidence. The report was to be not only for the information of the Indian Government but for that of other nations generally. The Commission was, in point of fact, very wisely given a wide range of discretionary power as to the extent and conduct of its investigations and in the preparation of its report. The report is drawn up in two parts, the first dealing in a somewhat amplified way with the four questions referred to, while the second part is devoted to a description of the measures actually adopted to deal with outbreaks of plague and to an inquiry about the possibility of making any improvement in them.

The general report is signed by all the members, but several subjects are taken up and discussed in separate and special memoranda furnished by the President and by some other members of the Commission respectively. The President in particular has put on record an able and valuable summing up and commentary on the evidence and his own conclusions in regard to many points which may, we think, be advantageously read and considered even by those who are wedded to a belief in the infallibility of a majority.

To take up and consider *seriatim* a number of points presenting themselves for review, as we had first thought of doing, would extend our notice to great length. It would be futile to attempt to analyse an elaborate and voluminous report of this kind, nor would it be doing justice to the labours of the Commission to select a very few points out of the numerous subjects and details which present themselves for consideration. The report must, as it seems to us, be referred to and regarded as a whole in order to form any adequate idea of it. Happily it is well arranged and indexed and everything has been done that could be done for facility of reference. We can only speak of its general character. About this we do not think there can be two opinions. We have no hesitation in saying that the report is a very able, exhaustive, and valuable public document. Whether people agree or disagree with everything laid down in it is, after all, immaterial. The fact remains that no one interested in the subject of plague will be able to set aside such a mine of trustworthy, well-considered information regarding the history of plague in India as these volumes afford.

[1] Report of the Indian Plague Commission with Appendices and Summary, five volumes. Presented to both Houses of Parliament by command of His Majesty. London: Eyre and Spottiswoode. 1901. Price of Vol. V. (the Report), 4s. 6d.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8844 births and 6959 deaths were registered during the week ending Feb. 22nd. The annual rate of mortality in these towns, which had been 17·9, 20·6, and 22·6 per 1000 in the three preceding weeks, further rose last week to 24·4 per 1000. In London the death-rate was 29·3 per 1000, while it averaged 22·3 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 13·1 in Ipswich, 13·4 in Derby and in Barrow-in-Furness, 14·2 in West Bromwich, and 14·7 in Portsmouth: the highest rates were 29·7 in Wigan, 29·8 in Rochdale and

in Newcastle, 32·7 in Plymouth, and 36·2 in Merthyr Tydfil. The 6959 deaths in these towns last week included 581 which were referred to the principal zymotic diseases, against 584 and 525 in the two preceding weeks; of these 581 deaths 145 resulted from measles, 139 from whooping-cough, 99 from diphtheria, 69 from small-pox, 49 from scarlet fever, 44 from "fever" (principally enteric), and 36 from diarrhœa. No death from any of these diseases was registered last week in Hornsey, Hastings, Aston Manor, Newport (Mon.), or Swansea; while the highest zymotic death-rates were recorded in Brighton, Hanley, Burton-on-Trent, Bootle, Burnley, Rotherham, Stockton-on-Tees, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Stockport, Burnley, Preston, and Merthyr Tydfil; from scarlet fever in Tottenham, South Shields, and Newcastle; from diphtheria in Hanley, Burton-on-Trent, King's Norton, and Stockton-on-Tees; from whooping-cough in Brighton, Bournemouth, Birmingham, Coventry, Bootle, and Gateshead; and from diarrhœa in St. Helens. The mortality from "fever" showed no marked excess in any of the large towns. 69 deaths from small-pox were registered last week and of these 64 belonged to London, two to Tottenham, two to West Ham, and one to East Ham. The number of small-pox patients under treatment in the Metropolitan Asylums hospitals, which had been 1102 and 1185 on the two preceding Saturdays, had further risen to 1321 at the end of last week; 502 new cases were admitted during the week, against 499, 287, and 390 in the three preceding weeks. There were 2406 scarlet fever cases under treatment in these hospitals and in the London Fever Hospital on Saturday, Feb. 22nd, against numbers decreasing from 3137 to 2455 on the eight preceding Saturdays; 219 new cases were admitted during the week, against 226, 277, and 260 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 375, 486, and 681 in the three preceding weeks, further increased last week to 885, and were 363 above the corrected average number. Influenza was stated to be the primary cause of 107 deaths in London last week, against 26, 40, and 51 in the three preceding weeks. The causes of 101, or 1·4 per cent., of the deaths in the 76 towns last week were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Salford, and 35 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, St. Helens, Warrington, Halifax, South Shields, and Newport (Mon.).

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 21·8, 23·9, and 23·6 per 1000 in the three preceding weeks, rose again to 25·3 per 1000 during the week ending Feb. 22nd, and exceeded by 0·9 the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 22·1 in Edinburgh and 23·7 in Paisley to 28·4 in Leith and 37·1 in Greenock. The 817 deaths in these towns included 22 which were referred to diarrhœa, 20 to whooping-cough, 17 to measles, seven to small-pox, six to diphtheria, six to "fever," and three to scarlet fever. In all 81 deaths resulted from these principal zymotic diseases last week, against 83 and 66 in the two preceding weeks. These 81 deaths were equal to an annual rate of 2·5 per 1000, which was 0·5 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of diarrhœa, which had been 23 and 16 in the two preceding weeks, rose again last week to 22, of which 12 occurred in Glasgow, five in Dundee, and three in Edinburgh. The deaths from whooping-cough, which had been 19, 17, and 20 in the three preceding weeks, were again 20 last week, and included 15 in Glasgow and four in Aberdeen. The fatal cases of measles, which had been 23, 19, and 12 in the three preceding weeks, rose again last week to 17, of which seven were registered in Glasgow, four in Greenock, three in Dundee, and two in Paisley. The deaths from small-pox, which had been one, one, and two in the three preceding weeks, further rose to seven, and included six in Glasgow and one in Perth. The fatal cases of diphtheria, which had been eight and three in the two preceding weeks, rose again last week to six, of which three occurred in Greenock. The deaths referred to different forms of "fever," which had been three, five, and 10 in the three preceding weeks, declined again to six last week, and included four in Glasgow. The deaths attributed to diseases of the respiratory organs in these towns, which had been 141, 173, and 211 in the three preceding weeks, further increased last week to 224, and were 47 in excess of the number in the corresponding period of last year. The causes of 21, or nearly 3 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·7, 23·6, and 25·7 per 1000 in the three preceding weeks, further rose to 33·3 per 1000 during the week ending Feb. 22nd. During the past four weeks the death-rate has averaged 26·4 per 1000, the rates during the same period being 24·1 in London and 22·2 in Edinburgh. The 242 deaths of persons belonging to Dublin registered during the week under notice showed an excess of 55 over the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against four, five, and 11 in the three preceding weeks; of these, three resulted from measles, three from "fever," two from whooping-cough, two from diarrhœa, and one from diphtheria. These 11 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rates during the same period being 2·5 in London and 1·0 in Edinburgh. The fatal cases of measles and of diarrhœa corresponded with the respective numbers in the preceding week, while the deaths from whooping-cough showed a slight decrease and those from "fever" an increase. The 242 deaths in Dublin last week included 39 of children under one year of age and 79 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons showed a considerable excess over the numbers recorded in the preceding week. Four inquest cases and six deaths from violence were registered; and 101, or more than two-fifths, of the deaths occurred in public institutions. The causes of eight, or more than 3 per cent., of the deaths in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

Surgeon Philip Nicholas Randall has been allowed to withdraw from His Majesty's Naval Service with a gratuity.

ROYAL ARMY MEDICAL CORPS.

Major Richard E. Kelly is placed on temporary half-pay on account of ill-health. Dated Feb. 6th, 1902.

Lieutenant A. J. Williamson is placed under orders for South Africa. Lieutenant-Colonel E. Fiset, Canadian Army, joins the depôt at Aldershot for a course of instruction. Surgeon-Lieutenant M. Cholmeley is posted to the 3rd Station Hospital, Aldershot, for duty.

Captain C. E. Pollock assumes medical charge of troops, Station Hospital, &c., Glencorse, vice Surgeon-Captain G. Melville, A.M.R.

ROYAL ARMY MEDICAL CORPS (MILITIA).

The undermentioned gentlemen to be Lieutenants:—Hewitt John Lysaght Bullen and John White Hopkins.

IMPERIAL YEOMANRY.

Nottinghamshire (Southern Nottinghamshire): The undermentioned officer resigns his commission and receives new commission, subject to the provisions of the Militia and Yeomanry Act, 1901, retaining his present rank and seniority: Surgeon-Captain H. Williams. Westmoreland and Cumberland: Surgeon-Captain J. E. Bowser resigns his commission.

VOLUNTEER CORPS.

Rifle: 2nd Volunteer Battalion the Essex Regiment: Brigade-Surgeon-Lieutenant-Colonel E. Shedd resigns his commission, with permission to retain his rank and to wear the uniform of the battalion on retirement, vacating at the same time the appointment as Senior Medical Officer to the Essex Volunteer Infantry Brigade.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Aberdeen Company: Lieutenant A. W. Mackintosh to be Captain. The Maidstone Companies: Captain C. P. Oliver to be Major, and to command under paragraph 55A Volunteer Regulations.

VOLUNTEER INFANTRY BRIGADE.

Essex: Surgeon-Captain H. T. Challis, 4th Volunteer Battalion the Essex Regiment, to be Brigade-Surgeon-Lieutenant-Colonel on appointment as Senior Medical Officer to the Brigade.

SOUTH AFRICAN WAR NOTES.

Civil Surgeons Coffey, Laing, McDougall, Odonovan, and Lynch have been discharged from hospital to duty.

Lieutenant F. H. Merry, R.A.M.C. (invalided), Major H. J. Fletcher, R.A.M.C., and Civil Surgeons White (invalided), David (invalided), Leaming, Harris, and Wright are returning to England in the *Orient* which left Cape Town on Feb. 13th.

Captain E. M. Pilcher, R.A.M.C., Surgeon-Captain Joynt, Scottish Horse, and Civil Surgeons Clarke and McLelland are on passage home.

AN ANCIENT ORDINANCE DEALING WITH SHIP-SURGEONS.

In France, says a writer in the *Archives de Médecine Navale* for January, it was customary to look upon the Royal Ordinance of August 4th, 1819, as the first real mark of solicitude on the part of the State for the health of its seafaring population, but according to an ancient "Règlement," of which a copy is printed by our contemporary, the abovementioned date is at least a century too late. The document in question, which is very quaintly spelt, consists of a preamble with nine articles, and is signed "Louis, par le Roy, le Duc d'Orleans Regent, present Phelypeaux." The date of promulgation of this law was June 5th, 1717, and it deals with the provision of "Chirurgiens" for merchant vessels, together with the mode of examination of candidates for such appointments. In the preamble "H.M. Louis, by the Grace of God King of France and of Navarre," informs all and sundry that in spite of the Ordinance of "Aoust, 1681," the people who act as surgeons at sea are no better than ignorant impostors who imperil the health and well-being of his faithful subjects. For the future, therefore, no one shall be permitted to embark on board a sea-going "bastimen" in the capacity of surgeon who has not been examined by two master surgeons and found qualified. Every vessel with a crew of 20 men and upwards shall carry a surgeon, and when the crew number more than 50 there must be at least two surgeons. For each examination the master surgeons shall receive five livres, "to divide between them," but if the vessel on which the candidate proposes to embark is of less than 150 tons burden the fee shall be reduced to three livres. Pains and penalties of various kinds are provided in case a grasping master surgeon should try to extract more, save and except in the event of his being required to inspect the surgeon's medicine chest, when he can demand 20 sols, a similar sum being payable to his coadjutor an "apoticaire."

THE REPORT OF THE LADIES' COMMITTEE ON THE CONCENTRATION CAMPS.

The report of the Ladies' Committee on the Concentration Camps in South Africa is, we need scarcely say, very much what might have been anticipated by all "level-headed" people. Great care was exercised in the selection of the members of the committee. It was not to be expected that they would find everything perfect everywhere they went, but their report is very satisfactory nevertheless. There is no doubt that a large amount of sickness, attended with a heavy mortality, occurred in these camps, more especially among the Boer children, but, however much this may be deplored, it was inevitable under the circumstances. The Boers deserted their families in order to fight against us, and the British authorities in the field out of humanity undertook the care of them rather than allow them to perish on the veldt. The Boers neglect the most elementary principles of hygiene and their notions of treating the diseases of childhood are worse than antiquated. The responsibility and difficulty of undertaking the care of their families were immense under such circumstances. All the stories about the camp hospitals are simply untrue. It will be curious to see how those who raised a protest against, as they allege, the wholesale murder of women and children will deal with this report of the Ladies' Committee.

RECRUITING FOR 1901.

The annual report of the Inspector-General of Recruiting for 1901 is on the whole satisfactory. The total number of recruits for the regular army was 47,039, and for the militia 37,644. Speaking generally, recruiting for the first half of the year fell off, but it improved very much during the second half, the year's total being only 2000 below that reached in 1900, when the enthusiasm about the war in South Africa was in full force. The inspector-general's report contains a number of comments and remarks which have a distinctly medical bearing, such, for example, as the numbers medically inspected and rejected, the loss to the service of recruits owing to defective teeth, and so forth. We are glad to notice that the inspector-general strongly advocates the provision of suitable houses for recruiting purposes—a subject to which we have frequently drawn attention. Buildings, instead of being in slums and back streets, should be secured in more open, airy, and prominent thoroughfares than are now provided for the examination of recruits, and they should be properly furnished and equipped so as to be more attractive to young men than is at present the case; and if something could be done in the way of abolishing the system of "stoppages" it would, we think, have a good effect on recruiting.

THE ARMY ESTIMATES.

Referring to the recently issued Memorandum of the Secretary of State for War relating to the Army Estimates for 1902-3 we may state that the sum-total amounts to £69,310,000, while the number of men to be voted is 420,000. This shows a financial reduction of over £23,500,000 as compared with last year. This reduction is mainly to be accounted for by a decreased provision for war services in South Africa and China. As regards Vote II., Medical Services, the decrease on the vote amounts to £63,600, of which £50,000 are for war and £13,000 for normal services.

VOLUNTEER OFFICERS' DECORATION.

The King has conferred the Volunteer Officers' Decoration upon the undermentioned officers:—*North-Eastern District: Artillery:* 1st West Riding of Yorkshire (Sheffield) Royal Engineers (Volunteers): Surgeon-Lieutenant-Colonel George Robinson. *Scottish District: Artillery:* 1st Ayrshire and Galloway Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant-Colonel James Thomson. *Western District: Artillery:* 1st Cornwall's (Duke of Cornwall's) Royal Garrison Artillery (Volunteers): Surgeon-Lieutenant James Madge, jun.

Correspondence.

"Audi alteram partem."

A QUESTIONABLE PUNISHMENT.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 21st last (p. 1762) Major Ronald Ross, I.M.S. (retired), has addressed a letter to you under the above heading. I happen to be the civil surgeon to whom he refers in that letter and about whom he wishes to obtain the opinion of your readers "with a view to further action if deemed necessary." Though I fully appreciate the kindly motive that has prompted him to take this action on my behalf I feel I cannot allow the matter to go further without recording my most emphatic protest at any action whatsoever being taken by the medical profession in this matter.

Whatever may be the opinion of medical men in general as to the justice of the punishment that has been meted out to me by the Indian Government for the slip of the pen I was guilty of some years ago when writing a prescription, I have to recognise the fact that the punishment must have met with the approval of the head of the Indian Medical Service, who is their adviser in all matters concerning members of my service, and so long as I continue to serve under the Government of India it is obviously my duty to be loyal to that Government and to abide by its decisions.

I think I might mention in this connexion that a great deal more harm has been done to me by the efforts of my friends to be kind than ever would have occurred had they only left me alone. I am content to leave my future career in the hands of the Government under whom I serve with perfect confidence, and wish for no outside interference. It remains yet to be seen whether that career is "entirely

ruined," as Major Ross terms it, or whether my punishment may not after a time be considered to have been sufficient.

I am, Sirs, yours faithfully,

G. W. P. DENNYS,
Lieutenant-Colonel I.M.S., Civil Surgeon.

Peshawar, India, Jan. 19th, 1902.

To the Editors of THE LANCET.

SIRS,—Everyone will admire the tone of Colonel Dennys's letter of Jan. 19th, 1902, and will admit the correctness of his own attitude in the matter. I hasten to explain, however, that he has misunderstood my intentions. I did not write my letter, published in THE LANCET of Dec. 21st, 1901, on his behalf personally. Had such been my object I should certainly have obtained his consent previously, either directly or through his friends, whereas I most carefully avoided doing anything of the kind. I wrote my letter, not in the interests of Colonel Dennys personally, but in the interests of justice and of the medical profession in general.

Colonel Dennys is quite right to acquiesce in the action of his employers, the Indian Government; but that is no reason why the rest of the profession should do so. Many of us have been long of opinion that the interests both of justice and of the medical profession have suffered by the action which the Government of India took in this case. We think that the punishment was an unjust one, and we have every right to say so.

In order to save any possibility of misunderstanding I repeat that I wrote what I did absolutely independently of Colonel Dennys. It is unnecessary to introduce the personal factor at all in the case.

I am, Sirs, yours faithfully,

Feb. 19th, 1902. RONALD ROSS.

*** In order that any remarks which Major Ross might wish to make should appear in the same issue of THE LANCET as that in which Colonel Dennys's letter was published, we sent a proof of that letter to Major Ross.—ED. L.

THE DOSE AND LENGTH OF INCUBATION IN MEASLES AND VACCINATION.

To the Editors of THE LANCET.

SIRS,—My attention has been called to a letter of Dr. L. C. Dobson, published in THE LANCET of Feb. 15th, p. 477, upon vaccination, in which Dr. Dobson writes that with the exception of the Government establishment the only institute in or around London that manufactures its own lymph and which openly invites any member of the profession who may be interested in the process to inspect it for themselves is the Jenner Institute.

I have for the last 21 years manufactured my own lymph with signal success, during which time I have received testimonials from the medical profession in every part of the kingdom, whereas the Jenner Institute has, I believe, been only for some few years in existence. When THE LANCET Special Commission on Glycerinated Calf Vaccine Lymphs was appointed some years ago for the examination of bacterial purity of vaccine mine was placed at the head of the list.[1] I have always openly invited everyone, including, of course, members of the medical profession, to inspect my methods, and of this invitation a very large number of persons have availed themselves. I should not trouble you with this letter containing these statements about myself but for the fact that the publication of Dr. Dobson's statement in your columns would be an injustice to me if it passed uncontradicted. I shall therefore esteem it if you would kindly find space for this letter.

I am, Sirs, yours faithfully,

C. RENNER, M.D. Würzburg.

Marylebone-road, N.W., Feb. 17th, 1902.

THE DECAY OF AUSCULTATION AND THE USE OF THE BINAURAL STETHOSCOPE.

To the Editors of THE LANCET.

SIRS,—The introduction of the binaural stethoscope marked a distinct advance upon its single-stemmed progenitor. And although few would deny that the wooden instrument has its own special value, yet it will generally be conceded that the latter must take a back seat. It was related of some of the physicians at Guy's Hospital at the time of the introduction of the stethoscope that they were wont to show their contempt for the instrument by placing in it a flower and carrying it so decorated through the wards—the stethoscope, however, had "come to stay." A man does not surely see less distinctly by using both eyes, neither is the use of two ears a disadvantage in auscultation. In the binaural stethoscope we have the advantages of both immediate and mediate auscultation combined. This can be seen by a simple experiment. Place the chest-piece of a binaural stethoscope on a watch and on listening the ears will, as it were, be taken to the source of the ticking, while if one tube be occluded by pinching it the sound is heard at the other ear, not at the watch as in the former observation. I am not aware that this point has been noticed generally. I think that most careful auscultators avail themselves of both instruments in doubtful cases, as I certainly do myself, though for convenience the binaural is most frequently resorted to. There can be no question that the pressure of a stem stethoscope may cause much suffering to the patient, whereas pressure is not only unnecessary but harmful with the binaural variety. The pain caused by frequent pressure of ivory ear-pieces can easily be avoided by the use of india-rubber ones.

I am, Sirs, yours faithfully,

Weymouth-street, W., Feb. 21st, 1902. CHAS. W. CHAPMAN.

"WHAT'S WHAT."

To the Editors of THE LANCET.

SIRS,—As soon as I was aware that my name had been mentioned in "What's What" I wrote to the editor and I send you a copy of my letter and of his reply.

I am, Sirs, yours faithfully,

Feb. 24th, 1902. ANDERSON CRITCHETT.

[INCLOSURES.]

Harley-street, Feb. 15th, 1902.

DEAR SIR,—My attention has been called to the fact that in a book called "What's What," of which you are the editor, my name is mentioned in a manner which is likely to be misunderstood by the public and by the members of my profession. I have always strongly deprecated, and have done my best to avoid, any personal allusions in the lay press, and although I willingly acquit you of any intention to do me an injury I must beg that in any future editions of your book my name may be omitted.

Faithfully yours,

Harry Quilter, Esq. ANDERSON CRITCHETT.

9, Manchester-square, W., Feb. 18th, 1902.

DEAR SIR,—I beg to acknowledge your letter of the 15th, forwarded to me last night. If you will refer to either THE LANCET or the *Medical Journal* of last week you will find a letter from Mr. Watson Cheyne to myself on the same subject as your communication and my reply thereto. This will show you that I shall not in future be likely to repeat the atrocious crime of which you so pathetically complain. I much regret that in my desire to convey certain information to the public I should have caused any vexation by my allusions to special medical practitioners.

Yours faithfully,

HARRY QUILTER.

THE DISSEMINATION OF KNOWLEDGE CONCERNING VACCINATION.

To the Editors of THE LANCET.

SIRS,—At the meeting of the Sanitary Institute last week, at which an interesting paper on the Prevention of Small-pox in the Metropolis was read by Mr. A. Wynter Blyth, medical officer of health of St. Marylebone, it was not suggested that the public should be made acquainted with the facts concerning vaccination by means of popular lectures. The meetings of the Sanitary Institute, excellent as they are, are practically unknown to the general community. I would suggest that the Sanitary Institute, the National Health Society, the St. John Ambulance Association, the Royal Institution of Public Health, and the Incorporated Society of Medical Officers of Health should arrange that lectures should be given stating the facts in a popular and simple manner, and giving statistics (obtained from the present epidemic in London and from other former outbreaks) to prove the advantages resulting from efficient vaccination. To be effective the lectures must be given all over the country. Medical officers of health could themselves diffuse information in a similar manner. I am aware that some have already done so. Lantern-slides showing the typical course of vaccination, similar to the coloured plates published in the "Jenner Number" of the *British Medical Journal* of a few years ago, would be most useful. Also photographs to show what a real case of small-pox is—"modified," "confluent,"

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[1] THE LANCET, April 28th, 1900, p. 1224.

"malignant," and "hæmorrhagic." These slides will bring before the public what it cannot otherwise form an opinion of, and they need not be made revolting in their character. They cannot be more terrible than the disease itself. Such representations of actual facts will do more to convince people than pages of written matter. If it is "brought home" to them how loathsome and dangerous a disease small-pox is, and how easily it can be stamped out by vaccination and with so infinitesimal a risk by this process, the anti-vaccinator will similarly be "stamped out" in time. The chairman at such lectures should be a gentleman whose name in the scientific world is well known, or some local magnate whose influence will carry weight with the audience.

I shall be pleased to lend my lantern for the purposes of such a lecture to any medical officer of health.

I am, Sirs, yours faithfully,

HERBERT W. G MACLEOD, M.D. Edin.,
London, Feb. 23rd, 1902. D.P.H. Cantab. and Lond.

SURGICAL OPERATIONS FOR MITRAL STENOSIS.

To the Editors of THE LANCET.

SIRS,—In reference to the correspondence in your columns with regard to Sir Lauder Brunton's preliminary communication upon the above subject, I can corroborate Mr. Arbuthnot Lane's statement that he and I fully discussed the matter at least 12 years ago. Mr. Lane introduced the subject to my notice and satisfied me that he probably could without any immediately harmful result temporarily enlarge, by surgical means, the orifice of a constricted mitral valve. Lest, however, it should appear from Mr. Lane's letter that I am still hoping to succeed "in finding a case likely to receive benefit" therefrom, I shall be obliged if you will allow me to state that the *à priori* arguments against the probability of any patient deriving benefit from this operation seemed to me so conclusive that I deliberately decided against regarding it as a justifiable therapeutic measure. These arguments are so clearly summarised in your leading article of Feb. 15th (p. 461) that your readers will, I think, agree with me that Sir Lauder Brunton's chief task is not to show his surgical colleagues that it is possible to enlarge the stenosed mitral orifice, but to persuade his medical colleagues that such a proceeding is useful. It is possible to do many things that are useless and some things that are harmful.

I am, Sirs, yours faithfully,

Harley-street, W., Feb. 25th, 1902. LAURISTON E. SHAW.

BIRMINGHAM AND DISTRICT GENERAL MEDICAL PRACTITIONERS' UNION, EAST BIRMINGHAM BRANCH.

To the Editors of THE LANCET.

SIRS,—I have the honour to forward to you herewith a copy of resolutions recently passed by the above body which are self-explanatory.—I am, Sirs, yours faithfully,

H. W. POOLER, Honorary Secretary.
Great Brook-street, Birmingham, Feb. 19th, 1902.

[ENCLOSURE.]

Birmingham and District General Medical Practitioners' Union, East Birmingham Branch.

The following is a copy of a resolution passed at a meeting of the above society held on Jan. 9th: "That the honorary secretary be instructed to write to the managers of the various medical aid societies working in East Birmingham and inquire whether they are prepared to adopt the course of action already adopted by the National Medical Aid Company and the London and Manchester Medical Aid Society, which societies have resolved under no circumstances whatever to admit new members or to re-enter lapsed ones; and, further, that the result of the correspondence be reported to the next meeting."

At a meeting held on Feb. 13th, 1902, the honorary secretary reported that each of the societies concerned had given a written guarantee to observe the conditions laid down in the above resolution and it was thereupon further resolved:—

"That this meeting is of opinion that the undertaking given by the managers of the various medical aid societies which are working in East Birmingham is perfectly satisfactory and calculated to deal effectually with the practice of canvassing; and, further, that this meeting trusts that the medical officers and managers of these societies in East Birmingham will take care that this undertaking is rigorously carried out."

"That this meeting is of opinion that the establishment of private medical clubs is not in accordance with the real interests of the public, is derogatory to the dignity of the medical profession, and is eminently unfair to those medical aid societies which have given undertakings not to accept new members; and, further, that all possible means will be taken to prevent the formation of such private clubs in East Birmingham."

"That copies of these resolutions be forwarded to each of the medical aid societies, to the council of the Union, and to the medical press."

THE NEW DESIGNATION FOR THE VOLUNTEER MEDICAL STAFF CORPS.

To the Editors of THE LANCET.

SIRS,—Your correspondent in THE LANCET of Feb. 22nd, p. 547, hardly does the volunteer medical officer justice when he states that 11 are serving with the Royal Army Medical Corps, because a number of volunteer medical officers, realising how difficult it was unless they belonged to a bearer company to get their services accepted, have joined as civilians and obtained a higher rate of pay. The great obstacle to the discarding of compound ranks is the regimental system which follows exactly that of the various regiments of Guards, and the War Office has an idea that it is the wish of the regimental medical officers to remain so in order that they may still continue to wear the uniform of their regiments. My idea is that directly a regimental medical officer is gazetted he should become an officer in the Royal Army Medical Corps (Volunteers), and should wear departmental uniform; he is then always distinguishable and in the uniform for regimental or departmental duty. I will be glad if all volunteer medical officers will send me a postcard stating whether they agree or do not agree with my proposal. I will tabulate and publish the result and get the same presented to the Under Secretary of State for War.

I am, Sirs, yours faithfully,

P. B. GILES,
Brigade-Surgeon-Lieutenant-Colonel, S.M.O. Volunteer Ambulance School of Instruction.
Bletchley, Feb. 24th, 1902.

TREATMENT OF RESPIRATORY INCAPACITY.

To the Editors of THE LANCET.

SIRS,—I shall be obliged if you will kindly find space to correct a misprint that somewhat confuses the meaning of the first sentence of the article on Cleft Palate in THE LANCET of Feb. 22nd, 1902. p. 498. Instead of "treatment of the sufferers from cleft palate" the words should read "treatment of the sufferers from respiratory incapacity."—I am, Sirs, yours faithfully,

Cavendish-square, W., Feb. 24th, 1902. W. ARBUTHNOT LANE.

TETANUS FOLLOWING REVACCINATION.

To the Editors of THE LANCET.

SIRS,—I have read with interest the case of tetanus following revaccination on the leg in your issue of Feb. 22nd. With all due deference to the authors the most likely source of contamination does not seem to have been considered. After all their careful antiseptic measures they covered the wound with a "bunion plaster" and fixed this on with adhesive plaster. This would seem to be an ideal way of conveying tetanus and any other infection. I trust that public vaccinators as a rule follow their instructions more carefully and use an antiseptic dressing.

I am, Sirs, yours faithfully,

Feb. 23rd, 1902. ONE OF THEM.

ROYAL MICROSCOPICAL SOCIETY.—At a meeting of this society held on Feb. 19th a very short paper on Polarising with the Microscope by Mr. E. M. Nelson was read by the secretary in the unavoidable absence of the author. The object of the paper was to recommend the employment of tourmalines in place of Nicol's prisms, both in the ordinary examination of polariscope specimens and in the production of rings and brushes. It was recommended that the polarising tourmaline should be placed not below the stage but close to the lamp, and that the analyser should be set in a cap which fitted over the eyepiece. One of the members who spoke subsequently remarked on the great difficulty of obtaining tourmalines sufficiently free from colour.

SCIENTIFIC EXPERIMENTS IN HOUSE VENTILATION.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

ANY new suggestion in regard to ventilation is always welcome, but what is more particularly needed is some practical method of ventilating private houses. A theatre or a large assembly room costs so much to build and to keep in working order that it is comparatively easy to include in the outlay the expense necessary to secure more or less efficient ventilation. This is not the case with regard to the private house, and the problem will not easily be solved unless those concerned are willing to add to the ordinary cost of a private dwelling the cost of a scientific system of ventilation. Nevertheless, it is something to know that such a system can be worked satisfactorily even in the restricted space of a small room. Dr. Thomas Glover Lyon and Mr. James Cadett have between them devised and applied such a method. The experiment in question has been carried out in a small dining-room built over what used to be the back-yard of a house in a central and crowded part of London. Dr. Lyon showed and explained the details. Taking the Vienna Opera House as his model he calculates that each person should be supplied with 1600 cubic feet of fresh air per hour, and this cannot possibly be done regularly and in all weathers unless mechanical means are employed. He reckons that 12½ cubic feet of air weigh one pound. Therefore a theatre seating 1000 people will require 1,600,000 cubic feet per hour, or about 450 cubic feet per second, and this would correspond to 50 tons per hour or 30 pounds per second. To move this amount of air a 10 horse-power engine would be required or thereabouts. A private room, therefore, holding 12 persons, would need 19,200 cubic feet of fresh air and a motive power equal to moving one and one-eighth of a ton per hour. This is not to be obtained by the mere difference of indoor and out-door temperature and the currents of air that result therefrom. Also, such currents, instead of being uniform, always vary in velocity according to the fluctuations in the temperature. For ventilation to be perfect doors and windows must be shut and no air admitted save that which is pumped into the room, and then only is it possible to supply precisely the proper quantity at the desired temperature. It is on these principles that the dining-room in Dr. Lyon's house has been ventilated. This work has been greatly simplified by the fact that the roof is immediately above the ceiling and that it is not necessary to go to the top of the house or to pierce the outer walls to find fresh air. Nor are there any windows in the walls. The light comes from the glass panes of a lantern above the centre of the room. Outside there is a small compartment large enough to hold an engine, an electrical apparatus, the propelling fan, and the trays for washing the air. The latter are placed in a sort of cupboard with the air inlet protruding on the roof above, which has to be protected in such a manner as not to be clogged up by a downfall of snow. As the air penetrates and descends it strikes upon and has to travel zigzag between a succession of long trays filled with mineral oil. This oil arrests the dust, the soot, and other heavy particles borne forward with the air. For such a purpose oil is preferable to water, as the particles sink to the bottom of the oil, whereas capillary attraction keeps a large portion of them floating on the top of water. Moreover, if water is employed it will evaporate and perhaps render the air too moist. Below the trays, against which the air must strike at least twice, there are hot-water coils to warm the air, and beyond is the fan. According to the velocity at which this fan revolves more or less air is drawn from outside the roof down on to the washing trays and the heating coils, and is then propelled into the duct for distribution in the room beyond. This duct being measured an anemometer placed inside will record the velocity at which the air travels and the number of cubic feet supplied can thus be accurately estimated. A few experiments will show at what rate the engine must work in order to provide the amount of air needed. Any sort of motive force to work the fan could be employed, but for private houses electricity is to be preferred because it is clean, produces the least noise, and can be turned on or off at once and just when it is wanted. For a small room the cost of electric power will not amount to more than 1*d.* per hour.

The cleaning, the warming, and the supplying of the right quantity of air constitute, however, only the minor or least difficult part of the problem. By far the most perplexing phase is to know how to distribute this air in the room in such a manner as not to inconvenience the persons within. For this purpose it does not suffice to have large inlet surfaces, for it would then be found that the air would come through one portion of these apertures with great velocity and hardly at all from the other parts of the openings. Therefore it is necessary to study and to ascertain where the current is strongest and there to place the greatest number of obstacles. For instance, in Dr. Lyon's dining-room there is a conduit or shaft running along within the top of a false inner wall. The impetus given to the air by the fan is such that it will travel in a straight line to the end of the conduit and not avail itself of the apertures on the road to enter the room. It is therefore by the opening nearest to the end of the conduit, where the air can no longer travel forward in a straight line, that the greatest amount would escape into the room. To meet this difficulty false inner walls have been built on two sides of the room, facing each other, the one to serve for the inlet and the other for the outlet of the air. This adds considerably to the complication and expense of the system, but it lends itself admirably to decorative purposes. The false wall, which can be made of wood, should stand six inches in front of the real wall. Only a portion of this space, six inches deep, is required for ventilation, and the rest can be employed for real cupboards or for bookshelves. The part used for ventilating purposes has the appearance of closed cupboards, about two feet wide and four feet high, and there are three of them on each of the two sides of the room which have false walls. Pilaster or panelling can be employed for these false cupboards, but behind this ornamentation there must be a perforated shutter or a wire gauze. These perforations being the same in all parts of the shutter or wire gauze, the air would not come through evenly from the entire surface but would rush out with greater velocity from that part of the cupboard or air-chamber where the pressure was greatest. Here, then, the same principle applies as that mentioned with regard to the air-conduit which runs horizontally along the room near the ceiling. In this case, however, the air propelled or pressed out of the horizontal conduit receives an impetus that makes it travel downwards in a vertical line to the bottom of the cupboard. There it is abruptly checked and begins to expand. It is consequently from the bottom of the cupboard that the largest quantity of air would come out into the room and perhaps create a draft. Therefore a baffling arrangement must be placed behind the shutter to counteract this tendency. For this purpose narrow slips of wood are fastened to the inside of the shutter. These slips are in the shape of very long and acute triangles. The triangles are placed with their broader part or base at the bottom of the shutter and they nearly touch each other, so that the apertures between them are smallest just where the pressure of the air is greatest, and become wider and wider as the upper part of the cupboard is reached. Thus between these four letters **A A A A** the space is much wider at the top than at the bottom; but we must imagine these angles to be much longer and narrower than is the case with ordinary type letters. The principle applied within each cupboard is also applied with regard to the relationship of the cupboards the one to the other. Therefore, at the inlet end of the air conduit—that is, where the air passes with the greatest impetus or velocity and is less likely to be diverted from its course so as to enter the air-chamber or cupboard—there the cupboard is largest and offers the least resistance. At the other end of the conduit, where, on the contrary, the air is suddenly stopped and can travel forward no further but must find some other exit, there the nearest chamber is the smallest and offers the most resistance. The pressure varies all along the conduit and inside the cupboards in consequence of the continual conflict between momentum and pressure. Hence the necessity of providing the largest outlets where the pressure is most feeble.

Having ensured by the means described that the velocity of the delivery of the air shall be uniform over the entire surface of the apertures, the next question to consider is what the air will do when it has entered the room. For the air outlets there are similar air-chambers or cupboards on the opposite side of the room, only the baffling triangular pieces

of wood are placed in the reverse way. The inlet apertures are largest at the top of the cupboards, and if the outlet apertures were similarly disposed then the air would simply travel across the upper portion of the room. Consequently the broad bases of the triangles are placed at the top of the outlet cupboards and the widest openings are at the bottom. The hot air being propelled downwards, as it enters it meets the colder air, and these two currents tumble over each other and create a rotary motion in the centre of the room. This prevents stratification or the forming of layers of atmosphere, some of them moving rapidly and others slowly or not at all, and thus efficient ventilation is secured for all parts of the room. Communicating with the outlet cupboards there is also a horizontal conduit leading to a second fan which, revolving in the reverse way, acts as an exhaust and throws the air out above the roof, but at a point situated as far as possible from the inlet.

The air, though delivered in great volume and at considerable velocity, is so baffled and evenly distributed that its passage cannot be felt. The room may be filled with people smoking, but the smoke is at once carried away, the atmosphere remaining always clear and fresh. This is a great comfort, and the active ventilation has a distinct effect on the appetite of the people dining. But it will be seen that these results are not attained without considerable trouble, expense, and minute attention to detail. It is doubtful if this system could be applied to a room for much less than £150. There are not many persons who could afford such an outlay. Dr. Lyon, however, replies to this objection by supposing that some wealthy person was in the habit of giving dinners with on an average 20 guests at a cost of about £2 per head. It would suffice to give three dinners less than usual to provide the means of defraying the cost of such a system of ventilation, and ever afterwards the dinners given would be infinitely more enjoyable.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Manchester Royal Infirmary.

AT the annual meeting of the trustees of the Manchester Royal Infirmary, held on Feb. 14th, Sir Forbes Adam, the chairman, said that the most important part of the report related to the sub-committee appointed nearly a year ago to form plans for the rebuilding of the infirmary on the present site. He said that it had been reported to them by a previous meeting "that a hospital on the non-pavilion plan would be in every respect satisfactory. ..... The great majority of the authorities, while still of opinion that the ideal plan was the pavilion plan, saw no reason why, if under the circumstances it was not possible to have on the site a pavilion hospital, there should not be an absolutely satisfactory hospital on a plan other than the pavilion plan." "The sub-committee hoped very soon to hand their report to the board, and it would be considered by the board in conjunction with the medical board and with any other competent expert outside gentleman whom the board might think fit to join them in their deliberations." A new infirmary has long been needed, and the medical board some time ago declared it to be a public scandal that Manchester should have no better hospital accommodation than the existing one. That point is settled, but the question of site may, perhaps, even yet be open to discussion. Authorities accept the pavilion plan as the ideal and any other is confessedly inferior to it. There is no room on the present infirmary site for the "ideal," the pavilion hospital, so that if it is rebuilt where it now stands Manchester must accept, and try to be content with, something below the best—i.e., with an inferior hospital. Yet, according to Sir Forbes Adam, the authorities see no reason why an inferior hospital should not be absolutely satisfactory, which seems a *reductio ad absurdum*. No one supposes that if there were sufficient space on the present site any but the pavilion plan would be entertained for a moment. Insufficient space is driving all concerned to the adoption of an "absolutely satisfactory" inferior plan. The chief reasons for the strong feeling on the part of many in favour of the present site are that it is central and of easy approach from the various railway-stations; that it is on the whole as convenient as any other for the medical staff; and that it has stood where it now stands for a long time, so that sentiment has grown up around it. There are, however, many objections to the Piccadilly site. The space about it is so scanty that the wards are not far enough away from the surrounding streets, busy with noisy traffic from early morning till late at night. To many patients the noise, especially with open windows, is most distressing and there is no escape from it. Then, too, the fog in the centre of the town is often dense to a degree, and singularly pungent and choking, causing injury, with much distress in breathing and coughing, to those suffering from chest ailments. The financial question is also an important one. If the infirmary is to be rebuilt where it now stands the money required will have to be raised where there are already numerous charitable calls, where almost all the hospitals are in debt, and where their reports are full of grievous lamentations over the customary annual deficit. Should, however, another site be chosen, as, for example, that of Stanley Grove, the sale of the Piccadilly site would provide funds for rebuilding without having to ask the "expert outside gentleman" to solve the problem of how to get an absolutely satisfactory hospital by an inferior method. As regards the financial position the institution on its present basis shows a surplus, but, as the chairman regretted to say, it was entirely eaten up by the deficit on the Barnes Convalescent Home.

Teaching to Check Infantile Mortality.

The Cheshire County Council is doing a good work in one branch of education. At the quarterly meeting, held on Feb. 13th, the chairman of the Technical Instruction Committee said that 46 scholarships in physiology and infant hygiene had been granted, the object being to give good and thorough instruction in those subjects to mistresses of elementary schools so as to qualify them to teach them in day and evening schools, in the hope of overcoming the ignorance which prevailed as to the feeding and proper care of infants. It was mentioned that at Hyde, where the infant mortality has been high, several of the mistresses had taken scholarships, and it was hoped that mistresses from the adjoining towns of Stalybridge and Dukinfield would do so. At Sandbach National School this teaching forms a special subject.

Arsenic in Beer.

At the same meeting of the Cheshire County Council the report of Mr. Carter Bell, the county analyst, stated that the beers which he had analysed were practically free from arsenic. In some cases they contained from $\frac{1}{7\,0\,0}$th to $\frac{1}{3\,5\,0}$th part of a grain to the gallon, so that a person would have to drink 300 gallons to obtain one grain of arsenic.

Red Lead in Beer.

At the Manchester Police-court on Feb. 17th a man was charged with "wilful and malicious injury to property" by putting a quantity of red lead into a brew of beer valued at £60. He had had notice to leave. When charged he said that he had done it "not with the intention of poisoning anyone, but simply to spoil the reputation of the brewer." This would seem to be a sufficiently serious matter and one cannot well see any room for much sympathy towards the offender. But the prosecution and the bench were apparently alike tenderly disposed to the prisoner who had the grace to say that he was ashamed of the wrong done and, as is customary, asked for mercy "for the sake of his wife and child and aged parents." The chairman of the magistrates said that he had "taken a very *stupid* feeling against the brewer" and sapiently added that he "might have done a good deal of harm." An ordinary person would, perhaps, have used the word "wicked" instead of *stupid*. The bench decided to deal leniently with the prisoner, so he was ordered to pay £5 as damages and a fine of a guinea and costs, or to go to prison for a month. Why should such special tenderness be shown in a case of wholesale and reckless poisoning of beer?

Feb. 25th.

WALES AND WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

Vaccination Fees at Cardiff.

THE Cardiff Board of Guardians has always resented the payment of increased fees to the public vaccinators of the union, and at a meeting of the committee of the Association

of Poor-law Unions held in London on Feb. 20th the Mayor of Cardiff, who is a member of the board of guardians, expressed the opinion that the fees were altogether too high and that if they were not reduced the Cardiff board was prepared, with the assistance of other boards, to take steps to secure a reduction. The members of the Cardiff board do not appear to realise that the fees payable under the Vaccination Act, 1898, are for services which are of a very responsible character and in the proper performance of which a great deal of time is expended. If the definite instructions of the Local Government Board with regard to the aseptic precautions which are to be taken by the public vaccinator when performing the operation are to be properly carried out an adequate fee must be paid by the authority responsible for payment.

Merthyr General Hospital.

The Merthyr General Hospital was established in 1887 and has accommodation for 29 patients. The annual report of the executive board which has just been published is of a very satisfactory character, for it discloses the fact—a very unusual one in connexion with public hospitals—that extensive additions have been made to the nurses' home and electric light has been installed in the operating theatre without making any special call upon the supporters of the hospital and without encroaching upon the invested funds. During 1901 there were treated in the wards of the hospital 212 patients. The average weekly cost per patient is not stated.

Lodgers in Small Houses.

At the recent assizes for the county of Monmouth Mr. Justice Phillimore in his charge to the grand jury drew their attention as magistrates and landowners to the dangers of the presence of lodgers in the small houses of working people and said that it looked as if much crime was due to the influence of lodgers upon the wife and children of the house. It is difficult for those who do not live among them to realise how many of the colliers in Glamorganshire and Monmouthshire live in "apartments." In the last annual report of the medical officer of health for the Rhondda valleys he states that among 2414 houses specially inspected there were 1242 in which lodgers were taken. There can be little doubt that the high death-rates which prevail in the colliery districts are closely connected with the overcrowding of the houses in these localities.

Wiltshire County Council.

The parish of Westwood in Wiltshire has a population of about 500 persons who are very indifferently supplied with water from wells, and the sanitary authority—the Bradford-on-Avon Rural District Council—cannot be persuaded to take steps to improve the supply. The Wiltshire County Council has therefore given notice that if a proper supply is not provided within six months action will be taken under Section 16 of the Local Government Act, 1894. This section enables a county council, after complaint by a parish council of the default of a rural district council to carry out certain duties, to transfer those duties and the accompanying powers either to the county council or to some one person with instructions to carry out the duties of the defaulting district council.

The New Workhouse Dietary.

The cost of the new dietary at the Frome Workhouse for the half-year ending Dec. 31st, 1901, was 3*s.* 6*d.* per head weekly (including special infirmary diets), and for the same period of 1900 (with the old dietary) the average weekly cost per head was 2*s.* 8*d.* The population of the Frome union is about 20,000 and the workhouse will accommodate 400 inmates.

Bath Eye Infirmary.

The annual meeting of the Bath Eye Infirmary was held on Feb. 21st, when it was reported that there was an adverse balance on the year's working of £25 in spite of the receipt of a special donation of £61 from the committee of the Bath Hospital for Women, an institution which is now closed. During 1901 there were treated at the infirmary 295 in-patients and 1898 out-patients. The Bath Eye Infirmary was established in the year 1811.

Death of Mr. C. E. G. Simons, M.B., C.M. Aberd., D.P.H.

Through the death of Dr. Simons of Merthyr Tydfil, at the early age of 34 years, there has been lost to the medical profession one who gave promise of becoming noted in the public health world. For several years he was associated in practice with his uncle, the late Mr. T. J. Dyke, F.R.C.S. Eng., who was the first medical officer of health for Merthyr Tydfil and the second medical officer of health to be appointed in the whole of England and Wales. For a few months Dr. Simons held the same position in Merthyr Tydfil, but gave up the post chiefly on account of ill-health. He died on Feb. 16th from pneumonia, though for some years he had been suffering from diabetes. He leaves a widow and two children.

Vaccination as Poor-law Relief.

At the meeting of the Newton Abbot Board of Guardians held on Feb. 19th some of the guardians said that persons who were revaccinated by the public vaccinator became paupers. The clerk, however, stated that vaccination did not constitute parochial relief, and eventually the board decided to issue notices to the effect that revaccination would be performed free of charge.

Royal Devon and Exeter Hospital.

The court of governors of this institution was held on Feb. 20th, under the presidency of the Bishop of Marlborough (Dean of Exeter). The medical report stated that 1258 in-patients had been treated during 1901, compared with 1219 in the preceding year. 5103 out-patients were treated, against 5067 in 1900. The average daily number of in-patients was 146. The financial statement showed that the total receipts for the year had been £14,825, which included £8390 from legacies. The total expenditure amounted to £9777. The Bishop of Marlborough was re-elected president for the ensuing year.

Feb. 24th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Proposals for a Psychiatric Clinic in Edinburgh.

A SPECIAL meeting of the Edinburgh Medico-Chirurgical Society was held on Feb. 19th in the hall of the Royal College of Physicians of Edinburgh to discuss the question of having wards in the Royal Infirmary set aside for the treatment of incipient and transitory cases of mental disorder. The meeting was held at the instigation of some of the more prominent alienists in Edinburgh and was attended by a number of laymen and by several ladies. Looking at the audience gathered on this particular occasion it could not have been inferred that the subject was one in which the local profession was deeply interested. While the meeting was nominally a meeting of the Medico-Chirurgical Society it would be presumptuous to regard its decision as the deliberate finding of the society. The alienists naturally took the most prominent part in the discussion of their own scheme. The general opinion seems to be that it is desirable to have accommodation for this special class of case in the Royal Infirmary, but it is felt that the annual sum required for the upkeep of the infirmary is already so large that the managers can hardly be expected to rush into the matter. At present there is neither building nor ground available for the purpose, and until some rich friends of the promoters come forward with an endowment the infirmary managers will have public feeling with them in taking up a position of sympathetic *laissez faire*. Another point which finds expression in the profession, although no voice was given to it at the meeting, is that if such wards ever are established they ought to be under the charge of one of the general physicians to the infirmary and not under a specialist. Part of the object in having such wards is to avoid the stigma attached to a person who is sent to an asylum, and it is seen that if a prominent alienist was in charge the wards would be looked upon by the public as the "mad wards" and as being under the care of a "mad doctor," and that the stigma would thus be as great as attaches to being sent to an asylum. The raising of the question may have an immediately good result in leading the managers to relax the present rules regarding the exclusion of persons showing any measure of mental derangement. Two of the members of the infirmary staff referred in the discussion to these rules and they might with advantage be relaxed so that the admission of threatening cases of mental derangement, associated as they so often are with physical disturbance, might be left to the judgment of the individual physician.

Public Health: the Examination of Pathological Products in Edinburgh.

Within the past few weeks there has been a good deal of

heartburning in Edinburgh over the question of the examination of pathological products for the public health authorities. For some time past the work has been done in the laboratory of the Royal College of Physicians of Edinburgh at a small charge for each specimen examined. The trustees of the Usher Institute of Public Health which is attached to the University of Edinburgh have meanwhile approached the Public Health Committee of the town council with a view to having the bacteriological examination of products from suspected cases of infectious disease transferred to that institute. The Royal College of Physicians, supported by the Royal College of Surgeons, very naturally objected to this move on the part of the University and called a meeting of the profession in Edinburgh to consider the matter. The meeting was duly held, but, as so often happens, the profession as a whole showed no burning interest in the question. A resolution was, however, carried to the effect that the profession in Edinburgh was entirely satisfied with the manner in which the work had been done at the laboratory of the Royal College of Physicians. The matter thereafter came up before the Public Health Committee of the town council. That body very wisely determined that no arrangement could be regarded as final and satisfactory which did not provide for the class of work referred to being undertaken directly by the public health authorities, and decided that as the present arrangement with the Royal College of Physicians of Edinburgh was a temporary one it should not be disturbed at present.

Feb. 24th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Dublin.

No fresh case of small-pox has appeared in Dublin, and the isolation hospital at Findlas contains only three patients. The warning has probably been useful, for revaccination is being largely practised in mercantile establishments and in colleges. It is satisfactory to note Dr. E. J. McWeeney's statement that the anti-vaccinationist is almost entirely unknown in Ireland.

A Case of Poisoning by Belladonna.

A case came before Master Courtenay and a jury on Feb. 21st in which a young girl named Jane Crinion brought an action for damages against T. W. Britain, a pharmaceutical chemist, carrying on business in Drogheda, for negligence alleged to have been caused in preparing medicine. It appeared that two drachms of extract of belladonna were given to the plaintiff in mistake for confection of senna. A few moments after swallowing the dose the girl fell to the ground, and it was then discovered that she had taken about 120 grains of extract of belladonna. An emetic was administered and the stomach-pump was made use of as soon as possible, but it was many hours before she recovered consciousness. She complained that her eyesight and heart were still affected, although it is now more than seven months since the act of alleged negligence occurred. Damages were fixed by consent at £200.

Dublin Sanitary Association.

The annual general meeting of the Dublin Sanitary Association was held on Feb. 20th at Leinster House, Kildare-street. Sir Christopher Nixon, President of the Royal College of Physicians of Ireland, in moving the adoption of the report, alluded to what he stigmatised as the absurd position taken by Kingstown, Blackrock, and Dalkey in connexion with the compulsory notification of infectious diseases. He considered that it was quite time that the law with regard to this matter should be assimilated to that which prevails in England. He would also advocate the extension of the law generally as it exists in England and Scotland, especially as to the appointment of officers of health for certain areas who could give their entire time to the work. He made an important suggestion in reference to the almost complete absence in Dublin of accommodation for patients suffering from consumption who were not fit subjects for a general hospital. The authorities of the Mater Misericordiæ Hospital had recently provided a convalescent home in Santry and had acquired there from 110 to 120 acres of land—ground enough for the erection of suitable cottage hospitals. He thought it possible that this ground might be given over for the erection of sanatoriums if it was required for that meritorious purpose. After the adoption of the report Dr. Charles F. Moore, the learned president of the association, delivered a very interesting address dealing with the necessity for compulsory revaccination and with other matters of medical and public importance.

The Belfast Maternity Hospital.

At the annual meeting of the supporters of this charity, held on Feb. 20th, it was reported that during the year 304 patients were treated and 271 children were born (141 males and 130 females), with only one death. 582 patients had been treated in the extern department.

The Small-pox Epidemic.

So far no cases of small-pox have occurred in Ulster, with the exception of one case reported from Kilrea, where a young woman, a workmistress in the National School in Kilrea, county Derry, developed the disease at the end of last week. She was removed to Ballymoney Hospital. How she contracted the disease remains a mystery. Some think that it was conveyed through letters from Glasgow; others that it was through a visit from a friend from that city. The Limavady Board of Guardians has had before it the question of purchasing the iron hospital at Magilligan, formerly used as an intercepting hospital, to be used if required as a small-pox hospital in the workhouse grounds.

Death of Mr. S. A. K. Strahan, M.D.R.U.I., L.R.C.P. Edin.

The death in London on Feb. 21st of Dr. Strahan is announced. He graduated as M.D. of the Royal University of Ireland in 1879 and devoted himself to the study of mental disease.

The Cork School of Medicine and the Examining Board of the Royal University of Ireland.

For many years the gravest dissatisfaction has existed in the Cork School of Medicine owing to the manner in which the board of examiners of the Royal University of Ireland is constituted. Though a large number of medical students from Cork have graduated at that University, yet since its foundation not even once has an examiner in medicine or surgery been appointed from Cork, neither for nearly 20 years has the Cork school been represented by an examiner in midwifery. The medical students in Cork have come to realise the situation and they present themselves for the Royal examinations in fewer and fewer numbers every year. The council of Queen's College, Cork, and the Cork Medical and Surgical Society have addressed communications to the Senate of the Royal University on the subject, and it is to be hoped that their remonstrances will have an effect, as it seems a pity that so many students from Cork should consider it desirable to incur the expense of crossing over to Scotland for their qualifications.

Feb. 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Arrhenal.

AT a meeting of the Academy of Medicine held on Feb. 11th M. Armand Gautier, to whom is due the introduction into therapeutics of that remarkable drug cacodylate of sodium, brought forward a new arsenical compound closely allied to the cacodylate—namely, di-sodic methyl arsenate. This substance M. Gautier has called for short "arrhenal," arrhen being an early name for arsenic. Arrhenal is no more poisonous than is cacodylate and possesses the same therapeutic properties, only it acts with greater vigour. It has without giving rise to any unpleasant consequences, whereas the great advantage of being administrable by the mouth cacodylate decomposes in the alimentary canal, giving off the toxic oxide of cacodyle, so that it can only be administered by hypodermic injection. Arrhenal is a powerful tonic and acts admirably in all cachectic states, even in tubercle and in cancer if given at an early date. M. Gautier has used it specially in malarial cachexia and found it superior to quinine. M. Billet has made trials of it in the military hospital at Constantine. Patients suffering from a severe form of quotidian fever showed a normal temperature on the day after taking it and some of them remained for three months without a relapse. Moreover, when the blood of such patients was examined under the microscope the process of phagocytosis of the malarial hæmatozoa could be watched. If one

dose of five centigrammes was administered a blood-count on the following day showed rapid regeneration of the red blood cells, and within 48 hours the number of red blood cells per cubic millimetre passed from 2,740,000 to 3,420,000 in one case and in another from 3,800,000 to 5,022,000. This drug, it would seem, therefore, has a great future before it in the various colonies.

Public Hygiene and Mortality.

With reference to the question of the depopulation of France M. Papillon recently read a most striking paper before the Statistical Society of Paris. He commenced by pointing out that in France the statistics of births and deaths were very incomplete. France, continued M. Papillon, enjoys a temperate climate and possesses a soil so fertile as to produce everything that she can require. Yet her birth-rate is the lowest in Europe and her mortality grievously high. This is not due to natural causes, but to the customs of the country. Of a population of 38,000,000 150,000 die annually from tuberculosis, while Great Britain with a population of 41,000,000 only loses 60,000 from the same cause. In every other European country tuberculosis is decreasing, in France it is increasing, because in every other European country alcoholism is decreasing while in France it is on the increase. Here are some figures. Between two censuses the tuberculosis mortality has increased in France by 68 per 100,000 inhabitants. In Germany it has decreased by 109 per 100,000 inhabitants, a difference of 177 per 100,000. This means that nearly 68,000 lives have been lost to France each year by tuberculosis that could have been preserved. Again, there is typhoid fever, a disease which is eminently preventable. The mortality from this disease amounts each year to from 10,000 to 12,000 and these deaths are of young persons just on the threshold of the procreative period of life. In France small-pox kills annually 3000 people, while in Germany the same disease kills one or two. Rabies is unknown in England owing to the strict muzzling and quarantine regulations. The eruptive fevers exact a heavy toll of life in France owing to non-disinfection of houses and personal belongings. These diseases could easily be avoided altogether or at least kept from spreading. Another cause of depopulation is syphilis which either brings about sterility or gives rise to a progeny blighted from the birth. If the money value of a middle-aged man be taken at 5000 francs France has to submit to an annual loss of 400,000,000 francs of human capital, to say nothing of dilapidations of human energy caused by an excess of infectious disease. France, together with Germany and England, possesses excellent laws, but they are not carried out because outside the diseases enumerated in statistical tables there is another disease not mentioned in international nomenclature, probably because it is national. It is the electoral disease of drink-shops and public-houses which are not obliged to possess even a municipal licence because producers of alcohol are considered as merchants of the same class as those producing other goods. Dogs are far too lightly taxed, revaccination is only occasionally carried out, and the water-supply is in the hands of an engineer, while at Berlin the chief of the water-supply is a skilled hygienist. With regard to tuberculosis there are laws against insanitary dwellings, but they are not enforced owing to local interests. Cowsheds are not properly supervised, piggeries have no supervision whatever, and private slaughter-houses are still allowed to exist. After 17 years' consideration the two Chambers have just formulated a law with regard to the protection of the public health, but it will come to nothing, for there is no one charged with seeing that its provisions are carried out. If the various prefects are charged with its administration they will consider matters of convenience rather than those of health. In France sanitary powers and responsibilities are scattered abroad amongst three departments—those of the Minister of the Interior, of the Minister of Commerce, and of the Minister of Agriculture. All these administrations should be centralised under one under-secretary with an organisation at his command of sanitary medical officers who should have a free hand. Moral responsibility would thus be increased and statistics of death would no longer be tabulated under the two headings of "cause unknown" and "other causes."

The Diagnosis of Real from Apparent Death.

The Dugaste prize of the Academy of Sciences for 1900 was awarded to Dr. Icard of Marseilles for a method devised by him of diagnosing by means of fluorescine when death has actually taken place. The test depends upon an absolute physiological fact. No absorbable substance can be taken up by all the body tissues except the circulation be in action. Any absorbable substance injected subcutaneously will be absorbed if the circulation persists. If, then, a substance injected into the leg is after a certain lapse of time found in the tissues of the arm it must have been carried thither by the blood-stream and it can therefore be definitely affirmed that at the moment of injection the circulation, or in other words life, was present. Dr. Icard makes use of a solution of fluorescine. So great is the tinctorial power of fluorescine that one gramme will colour 45,000 litres of water. It is not poisonous, caustic, or irritant. Within two minutes after the injection of fluorescine under the skin of a living body the skin and the mucous membranes show an intense colouration and the subject appears to be suffering from acute jaundice. The tissues of the eye are stained a bright green colour, the pupil disappears, and it looks as if a magnificent emerald had been set in the orbit. The tears, the saliva, and the urine are all coloured and one drop of blood or urine added to a glass of water makes it of a bright grass-green tint. Within an hour or two all these symptoms disappear, the fluorescine having been eliminated by the kidneys.

Feb. 25th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Royal Victoria Hospital, Montreal.

AT the annual meeting of the governors of this institution held early in January it was announced that extensive additions were to be made to the hospital during the present year, including two new operating theatres, one for the gynæcological department and another for special cases. The annual medical report was submitted and showed that during 1901 2579 patients had been admitted to the hospital, 421 being private ward patients. On Jan. 1st, 1901, there were 194 patients in residence. During the year 2600 were discharged, of whom 1583 recovered, 792 improved, 59 did not improve, 51 were not treated, 115 died, and 173 remained in the hospital at the end of December, 1901. The death-rate for the year has been 4·42 per cent., or, if 23 who died within 48 hours of admission are deducted, the death-rate would be 3·54 per cent. In the out-patient department the total number treated was 3601. The income of the hospital for the year amounted to $130,738·40, while the ordinary expenditure amounted to $112,280·20, leaving a balance or $18,458·20 which is being applied towards the cost of a new power house and isolation pavilion.

Quarantine on the Pacific Coast.

With the permission of Dr. Montizambert, the Director-General of Public Health, quarantine arrangements on the Pacific Coast have been made affecting the Empress line of steamers plying between Vancouver and the Far East. Formerly these steamers were compelled to go into quarantine at the Williams Head Station and remain there for four or five hours, often at great inconvenience to the passengers, even when there was no case of contagious disease on board. Under the new order the steamers will be obliged to touch at quarantine only when any contagious disease has developed on the voyage. Better connexions will thus be established for the overland trains from Vancouver.

Reforming the Ontario Medical Council.

A Bill is now before the Ontario Legislature which seeks to make radical changes in the constitution of the Ontario Medical Council, the governing body of the College of Physicians and Surgeons of the province. As at present constituted, the council consists of 30 members, five of whom represent homœopathic practitioners and eight are non-elected appointees from the medical colleges connected with four of the universities in the province—viz., Toronto, Queen's, Trinity, and the Western at London. The other 17 members are elected by the regular profession throughout the province. There are only about 40 homœopathic practitioners in the province, while each elective representative of the regular profession has a constituency of 250, hence the present constitution of the council is considered to be very unfair to the regular profession. The proposed amendment to the Medical Act seeks to abolish this special provision for the homœopathists and the College representation on the

council and to provide that all the members should be elected by the whole profession throughout the province. The Bill is now before a special committee of the House on which all the medical and legal members are serving.

The South-Western Medical Association of Manitoba.

Two or three months ago the members of the profession in the south-west part of the province of Manitoba met and organised themselves into an association with the above title. Out of 70 practitioners in the district it speaks well for the medical body when it is stated that 67 of these immediately signed the roll, and there are good prospects of the remaining three doing likewise in the near future. The objects of this organisation are set forth as follows in a circular letter issued to the profession in Manitoba. Insurance companies will have to pay $5 for an examination, lodges with no insurance $2, and lodges with insurance $3. Lodge practice is discountenanced. A provisional tariff of fees has been fixed and all will endeavour to adhere to it as closely as possible. The organisation has also decided that it will be better in the interests of the profession if all render their accounts at least quarterly. A strong effort will be made to bring the whole profession in the province of Manitoba into the organisation.

Ontario Death-roll in 1901.

A statement recently issued by the Board of Health of the province gives the details regarding the deaths from contagious diseases occurring in 1901, 90 per cent. of the population reporting. The total deaths from all causes number 25,736, or 13·1 per 1000 as compared with 25,382 occurring in 1900. Tuberculosis caused more deaths than any other contagious disease—viz., 2286. This was not so large as in 1900, when the total was 2360. June was the healthiest month with a total of 1608 deaths; March showed the heaviest death-roll with 2525 deaths. Scarlet fever claimed 209; measles, 120; diphtheria, 512; whooping-cough, 112; and typhoid fever, 345. The mortality from typhoid fever in 1900 was 550.

Small-pox in Ontario.

It begins to look as if Ontario was in for a big epidemic of small-pox. Although the disease is pretty well under control in the unorganised districts amongst lumber camps, mining and construction camps, &c., where some 60 physicians have recently been appointed by the managers, the older and better settled sections of the province are now being attacked; and the last statement issued from the Board of Health shows that there were 629 cases in the province in the month of January. These patients are scattered over 28 counties with 87 centres for infection. Ontario is pretty bad, but many of the States of the American Union are much worse.

Toronto, Feb. 4th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Leprosy Bill for America.

SENATOR PLATT of New York has introduced into the National Legislature a Bill to Prevent the Spread of Leprosy, some of the provisions of which are as follows:—The appointment of a leprosy commissioner to reside at New York or San Francisco, with a yearly salary of $5000 (£1000); the setting aside of a mile square for a national leper home, the site to be chosen by a leprosy board; the appropriation of $50,000 (£10,000) to erect suitable buildings for the habitation of lepers in the United States, not including Hawaii, Porto Rico, Cuba, or the Philippines; the transportation of lepers who are unable to care for themselves to the national leper home; the injunction of steamship companies or individual vessels or railroads from bringing to the United States any leper or from accepting any immigrant from any of the countries known to be leprous without a special certificate; the strict supervision for seven years of immigrants of leprous families, though they themselves be free from the disease; the deportation of any leper who, despite all precautions, manages to enter the United States; no discrimination to be made on behalf of Americans who contract the disease in a foreign country; the Marine Hospital Service of the Treasury Department to have full charge of the National Leper Home. There are probably more cases of leprosy in the United States than is generally believed, and the enactment of such measures as the foregoing would not only prevent the spread of the disease (that is taking the view of the majority as to its contagiousness) but would impart a feeling of confidence among the general public.

Reforms in the New York City Hospitals.

Some months ago the revised charter of the city of New York provided that the charity hospitals, Bellevue, Harlem, Gouveneur, and Fordham should pass from the control of the Charities Department—under which management they have been for many years—to a board of trustees consisting of seven members. With the change of the city administration the new board appointed by Mayor Low has entered upon its duties. The city institutions will be subjected to thorough reforms and the existing methods of management will be very considerably altered. Bellevue Hospital, by far the largest and most important of these institutions, will naturally receive the lion's share of the new board's attention. The insane pavilion of Bellevue will be first taken in hand and it will be converted into what will practically be a temporary insane asylum. The alcoholic ward, so far as management is concerned, will be swept and garnished, and the nurses and attendants throughout the establishment will be paid fair wages. The statement is also made that a large appropriation of money will shortly be asked for, and that if the request be granted Bellevue will be rebuilt. It seems that the time is really now approaching when New York will have charity hospitals worthy of her position as the most important and the richest city of the United States.

Osteopathy in New York State.

This method of treating disease has become vastly popular in many parts of the United States, thus once more showing the gullibility of the human race. In some States the practice of osteopathy has been placed on a par with medical practice and to its professors have been granted all privileges and powers accorded to the men who hold a degree in medicine. Aided by the backing of influential persons in New York State, the osteopathic fraternity have for some considerable time been making determined and strenuous efforts to be placed upon an equal footing with graduates in medicine and surgery. A Bill to this effect was introduced into the New York State Legislature in the present session. The osteopaths set forth their qualifications to be given the right to treat disease of all kinds and to sign death certificates. They stated that everything is taught in osteopathic colleges that all medical colleges teach except materia medica. Naturally the medical profession opposed the passage of such a Bill with all its might and showed up many of the fallacies of osteopathy. For instance, it was pointed out that while the osteopathic colleges pretended to teach all branches of medical science except materia medica, the time devoted to this teaching made of the whole affair a complete farce. The whole osteopathic course in its prominent colleges is only two years, and the time given to the teaching of such important subjects as anatomy and physiology is so short as to be utterly absurd. It is therefore gratifying to be able to announce that the Bill to place osteopathy upon the same plane as regular medicine has again failed to pass in New York State.

Feb. 18th.

VACCINATION STATISTICS.—At the meeting of the Axbridge Board of Guardians held on Feb. 18th it was reported that during the half-year ended June, 1901, the births of 502 children were registered, 272 successful vaccinations were performed, 85 certificates of conscientious objection to vaccination were granted, and 43 children died unvaccinated. In Weston-super-Mare, the figures for which are included in the above returns, 232 births were registered, and only 89 children were successfully vaccinated.

TORBAY HOSPITAL, TORQUAY.—The annual meeting of the governors of this hospital was held on Feb. 20th. The medical report stated that 401 in-patients had been admitted during 1901, compared with 389 in the preceding year. 706 out-patients had been treated, exclusive of 628 ophthalmic cases. In the provident dispensary department 125 new cases had been admitted. The financial statement showed that the total expenditure amounted to £2325, and that there was an unfavourable balance of £57. The report added that at the closing of the Syracusa Convalescent Home the committee had presented the hospital with the Roentgen ray apparatus.

THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

A SPECIAL session of the General Medical Council was opened on Tuesday last, Feb. 25th. The President of the Council, Sir William Turner, K.C.B., presided over a full meeting of the Council, including the three new members, Dr. D. W. Finlay, Dr. J. Y. Mackay, and Mr. George Jackson.

The session was summoned, it will be remembered, to consider the report of a committee appointed to inquire into the differences existing between certain licensing bodies and the Council regarding the courses and conditions of medical study. But when the Council found itself meeting on the eve of the second reading of the Midwives Bill it very rightly decided to consider this measure before proceeding to the special business. As a result the Council came to the conclusion to adhere to its previous resolutions in regard to the Midwives Registration Bill, and decided, as we foreshadowed in our leading article last week, that the measure read in the House of Commons for the second time on Feb. 26th was not in accordance with its resolutions. The Council therefore requested Sir John Batty Tuke, in the event of the Bill being read a second time, to communicate its views to the Grand Committee on Law. As all our readers know, the Bill was read for the second time on Wednesday last without a division, in spite of the efforts of Sir John Batty Tuke, who moved its rejection, of Sir Walter Foster, Mr. Ambrose, Mr. T. P. O'Connor, and others.

Dr. D. C. McVail's committee then presented its report, to consider which the special session had been summoned. The interesting observations and conclusions of this committee, which we reproduce in full, should be studied by all our readers. Certain points in medical education are summarised in a clear and comprehensive manner in the report. Two opinions relating to the subject from the counsel to the General Medical Council, Mr. Muir Mackenzie, were entered upon the minutes and will be found in our columns. In both Mr. Muir Mackenzie advises the Council that it has jurisdiction over the different courses of study to be gone through by candidates for registration. Dr. McVail then urged the adoption of the report by the Council, upon which would follow recourse to the Privy Council if the licensing bodies in question continued to differ from the view of the General Medical Council. Dr. Norman Moore, after pointing out that he and Mr. Bryant had sat on the committee not as representatives of the English Royal Colleges but as members of the General Medical Council, advocated an inquiry by the Council into the particular courses and institutions considered to be at fault before the Privy Council was approached.

The rest of the debate on the medical curriculum foreshadowed that when a division was taken the report of the Special Committee would be adopted; but at the same time the gravity of referring the matter to the Privy Council on the ground of the "insufficiency" of the Royal Colleges was fully recognised. In the end the Council voted by 17 to 4 to adopt the report "as far as page 53"—i.e., as far as Dr. McVail's motion had reference. A motion by Dr. MacAlister, seconded by Dr. McVail, was in the end unanimously agreed to, which put off appeal to the Privy Council, by requiring the Conjoint Examining Board in England to furnish the General Medical Council with certain information concerning the examinations of the Board in the preliminary subjects of medical study.

The special session concluded its work on Wednesday afternoon, Feb. 26th.

SPECIAL SESSION.

TUESDAY, FEB. 25TH.

The special session of the Council was opened in the Council Chamber, Oxford-street, Sir WILLIAM TURNER, K.C.B., President of the Council, occupying the chair.

Introduction of New Members.

The following new members were introduced—namely, Dr. David White Finlay, representative of the University of Aberdeen; Dr. John Yule Mackay, representative of the University of St. Andrews; and Mr. George Jackson, F.R.C.S., one of the recently elected Direct Representatives for England. Dr. Finlay and Dr. Mackay were introduced by Sir William Gairdner and Mr. Jackson by Mr. George Brown.

THE PRESIDENT'S ADDRESS.

The PRESIDENT said: Since the last meeting of the Council several changes have taken place in its *personnel*. As a result of the election of two Direct Representatives of the profession in England the seat for so many years occupied by Dr. Glover, whose impending retirement on account of health I intimated in November, has been filled by the election of Mr. George Jackson, and Mr. George Brown has again been chosen. Dr. William Bruce has also been re-elected by the registered practitioners resident in Scotland. Dr. Pettigrew has retired from the representation of his University. With one exception he had occupied a seat at our Council Board for a greater length of time than any other member. Originally chosen in 1877 to represent the Universities of Glasgow and St. Andrews, and 10 years afterwards as the representative of St. Andrews, when the Act of 1886 gave to the latter University the power to elect its own member, he has been in continuous occupation of his seat for 25 years. Dr. Pettigrew took a strong personal interest in the work of the Council. We shall miss his genial presence, and the experience which he gained during so many years in the management of our affairs. Dr. John Yule Mackay, Principal of University College, Dundee, which is now a constituent part of the University of St. Andrews, has been appointed his successor. Dr. Robert William Reid, who for five years represented the University of Aberdeen, and who during his period of office took an active interest in the subjects which came under the consideration of the Council, more especially in the work of the Education Committee, has been succeeded by Dr. David White Finlay, professor of medicine in that university. The Council welcome to their board the new and the re-elected members. The Council will recollect that on Dec. 3rd of last year it was resolved to appoint a committee to report on the differences that exist between certain licensing bodies on the one hand and the General Medical Council on the other regarding the courses and conditions of study and the recognition of the institutions and schools in which the required courses may be taken, and that a special meeting of the Council to consider the report should take place on the fourth Tuesday in February of this year. This is the reason why we have been called together at this unusual period. The committee's report has been for some days in your hands, and members of Council, in view of the momentous issues which have been raised in it, will, I feel sure, have given it their close attention. It is, I have no doubt, in the knowledge of all of you that a Midwives Bill has been introduced into the House of Commons during the present session and is to be read a second time during this week. I instructed our Registrar to obtain copies of the Bill as soon as it was printed, and to forward one to each Member of Council. You will observe from the programme of business that a copy of the Bill has been sent officially by the Lord President of the Privy Council for our information. As the consideration of a Midwives Bill formed no part of the business specified in the resolution of December last by which this meeting was fixed it will be necessary, in accordance with Standing Order 1 (3), should the Council desire to discuss this Bill and to offer an opinion on it, that a motion to this effect should be agreed to by the Council before any discussion can take place. I shall therefore put to the

Council the two following questions: 1. Shall the Council consider the Midwives Bill at this special meeting? 2. Shall the Council consider the Midwives Bill before proceeding to the special business for which it is summoned?

These questions were put from the chair and in each case the answer of the Council was in the affirmative.

The Midwives Bill.

Mr. HORSLEY moved that the Council should proceed to consider the letter of the Lord President of the Privy Council transmitting to the Council for the information of members a copy of the Midwives Bill as introduced in the House of Commons during the present session.

Dr. ATTHILL seconded this motion, saying that it would strengthen the hands of the members of the House of Commons who opposed the Bill if this Council gave its opinion about the measure.

The motion was agreed to.

Dr. ATTHILL moved:—

(1) That the Council adheres to the resolutions in regard to legislation for midwives which it adopted at a special meeting held in April, 1898, and communicated at his request to the Lord President of the Privy Council; (2) that the Council is of opinion that in important respects the provisions of the Midwives Bill, 1902, are at variance with the principles thus adopted by the Council, and do not embody the safeguards for the protection of the poor which it regards as essential; (3) that accordingly the Council is of opinion that the Midwives Bill, 1902, now before Parliament, ought not to pass into law; (4) that the foregoing resolutions be communicated forthwith to the Lord President of the Privy Council.

The terms of the resolutions of April, 1898, are as follows, viz.:—

1. That the Council adheres to its previous resolutions affirming that it is desirable that measures should be taken to protect lying-in women of the poorer classes from the grave risk which they now incur from the unregulated practice of midwives, many of whom are ignorant and unskilful, and most of whom pursue their calling without due medical supervision.

2. That to this end it is desirable that every woman who, not being a registered medical practitioner, engages for gain in practice as a midwife should be subjected to legal regulation and control.

3. That any measure which proposes merely to protect the title of "midwife," however defined, and does not make illegal and penal the unlicensed practice of midwifery for gain, cannot be regarded as offering a sufficient safeguard in the interest of the public health.

4. That some central body should be established by Parliament whose functions should include the framing of the conditions under which midwives may be licensed and of the regulations under which alone they shall be allowed to practise.

5. That the conditions and regulations so framed should be subject to the approval of the General Medical Council, and if and when so approved should be issued to the local sanitary authorities by the State department which is concerned with the public health.

6. That provision should be made by Parliament for reimbursing the Council for any expenditure which it may have to incur in performing the duty hereinbefore referred to.

7. That every woman, before beginning to practise as a midwife in any district, should be required to take out a licence, to be granted by the local sanitary authority of the district under the prescribed conditions and regulations. That such licence should be subject to annual renewal, and should be revocable at any time in case the holder is proved to have infringed any of the prescribed regulations.

8. That any unlicensed woman, whether calling herself a midwife or not, who, not being registered under the Medical Acts practises as a midwife for gain in any district, should be made liable to a substantial penalty.

9. That the conditions under which licences are granted should include the production of satisfactory evidence of character and of training and experience in the conduct of natural labour and in the after-care of lying-in women and new-born infants.

10. That the regulations under which licensed midwives are required to practise should include provisions securing that the midwife shall immediately seek qualified medical assistance in every case which presents symptoms of difficulty, abnormality, danger, or disease on the part of the mother or of the new-born infant.

11. That in so far as the Bill submitted to the Council is not in accordance with the general principles above laid down, the Council do not regard it as offering a solution of the question under consideration and would earnestly deprecate its passing into law in its present form.

Dr. ATTHILL said that he considered it essential that the Council should adhere strictly to the opinions it had clearly announced in these resolutions. It was inadvisable that they should discuss the provisions of the Bill now before Parliament. For himself he considered it the most objectionable Bill on the subject that had come before the House of Commons. In 1898 the Privy Council sent the Bill of that year to this Council and asked the opinion of the Council upon it. On the present occasion the opinion of the Council was not asked; the Bill was merely sent for the information of the Council. There were two points in particular on which the Council had always insisted: that no Bill should pass in which there was not a provision that in cases of difficulty the midwife should be compelled to call in the aid of a registered medical practitioner, and that there should be an annual fee for re-registration in order that midwives might be kept under supervision. These were the two chief details and if they were omitted from any Bill he believed that incalculable damage would be done.

Dr. P. HERON WATSON seconded the motion.

Mr. GEORGE BROWN said that he entirely approved of the proposed action. He thought it highly desirable that the Lord President of the Council should understand that this Bill was a departure from the measure of which the Council approved to a certain extent. All the safeguards which the Council had wished to see introduced had been dropped, and, indeed, the Bill was one which the Government should not aid in any way. The Bill professed to be framed in order to protect the poor against the practice of ignorant and inefficient midwives, but as a matter of fact it did nothing of the kind; it simply protected the title of "midwife." Should the Bill become law the old Sairey Gamp, the discredited village midwife, would be allowed to practise without let or hindrance. That fact of itself ought to be enough to make the Legislature reject the measure. Moreover, there was no penalty for those who, registered under the Act, failed to call in medical aid in dangerous cases. If the Bill were to meet its avowed purpose it must provide for efficient nursing during the lying-in period. Indeed, the Bill was totally inadequate and was condemned by the medical profession.

Dr. MACALISTER said that it was desirable to point out that the present Bill was at variance with each of the articles of faith set forth in the resolutions of April, 1898. It did not propose to regulate the practice of all women who practised as midwives. It only proposed to make regulations for those who took out certificates and called themselves midwives—a very small proportion of the total number. This comment also met the second resolution. As for the third resolution the Bill proposed merely to protect the title of midwife and did not contain the safeguard which the Council considered essential. It was quite true that the Bill proposed to establish a midwives' board, and that board would deal only with the *élite* of the profession who held certificates. It did not draw up regulations under which alone midwives should be allowed to practise. For the first time in a measure of this kind the approval of this Council was not required. All that was required was that the Privy Council should approve the rules after consultation with this Council. The consultation might be merely formal and any recommendations made by this Council might be entirely disregarded. With regard to the sixth resolution there was no proposal for reimbursing this Council for any expenditure it might incur in this connexion. Under the Bill a woman could notify if she pleased, not to the sanitary authority, but to the county or district council, and she need not apply annually for her licence. Therefore an important safeguard was lost. As to resolution No. 8 a penalty appeared in an incomplete form in a previous Bill, but it had been entirely left out of this measure. As to the ninth resolution the only persons who had to produce any evidence of character were those who applied to be licensed on the ground of their having been in practice for two years prior to the passing of the Act. All other applicants for certificates had no character conditions to satisfy. As to the tenth resolution there was no such provision in the Bill and none was likely to be introduced in rules framed by a midwives' board constituted in the manner proposed. For these reasons he desired to support the motion.

On the suggestion of Sir HECTOR CAMERON it was agreed to delete from the motion the qualifying words "in important respects."

Sir JOHN WILLIAMS said that as this was a Bill for the improvement of midwives it was well to consider what was the effect of the present system of educating and registering them. He had made some inquiries with regard to midwives connected with the out-patient departments of hospitals in London and he found that whereas the mortality in childbirth throughout the country was one in 200, in this particular practice it was only one in 1000. Any measure which would help to bring about such a result as that was surely deserving of consideration. He based this statement on the report of the Registrar-General.

Dr. MCVAIL asked whether the Registrar-General's report stated how much of this mortality occurred in cases attended by qualified medical practitioners and how much in cases attended only by midwives.

Sir JOHN WILLIAMS said that he could not answer that question.

Mr. HORSLEY said that he understood that the midwives

referred to were under the control of medical practitioners and therefore he submitted that there was no parallel to be drawn with the provisions of this Bill. Under this Bill the midwives were independent of medical practitioners.

Sir JOHN WILLIAMS explained that the cases were only visited by medical practitioners when difficulty arose.

Dr. NORMAN MOORE said that his view was that if it were thought that this Bill would improve the present state of things and not make it worse they should endeavour to amend the Bill.

Dr. ATTHILL said that he had always been an advocate for the education of midwives, but he regarded this Bill as a positive evil.

Dr. HERON WATSON said that it was a bad Bill root and branch and ought to be opposed.

Sir WILLIAM GAIRDNER said that the conferences with the promoters of this legislation which had taken place had left him with the impression that their desire was to be in accord with the wishes of this Council.

The PRESIDENT intimated that he had received a letter from one of the most active promoters of the Bill. In this letter the writer said that he believed the Government would agree to the Bill being read a second time on the understanding that all necessary amendments would be made in committee and he could have no doubt that they would seek to obtain the views of the General Medical Council at that stage. The writer continued: "I sincerely hope they will and that those views may receive full and ample consideration at their hands."

Mr. HORSLEY thought that the President of the Privy Council had gone back on his statement to the deputation of supporters of the Bill when he told them that they must agree with this Council.

Sir CHRISTOPHER NIXON submitted that the Council should not take up a completely *non-possumus* attitude in this matter, but should discuss the merits of the Bill and try to have the provisions altered according to its wishes.

Dr. MCVAIL thought that they should either pass the matter over altogether or indicate how the Bill should be altered.

It was agreed to insert at the end of the third clause of the motion the words "in its present form."

Thus amended the motion was put to the Council and carried *nemine contradicente*.

It was further agreed that in the event of the Bill being read a second time and referred to the Grand Committee on Law Sir John Batty Tuke be requested to communicate the resolutions of the Council on the subject to that committee.

The Medical Curriculum—The Dispute between the Council and the English Royal Colleges.

The Council proceeded to the consideration of a report on the curriculum by the special committee appointed last December "to prepare a report on the differences that exist between certain licensing bodies on the one hand and the General Medical Council on the other, regarding the courses and conditions of study and the recognition of the institutions and schools in which the required courses may be taken; and that the report be considered by the Medical Council at a special meeting, when the Council will decide what action, if any, shall be taken, and in particular whether the circumstances are such as to require action to be taken under Section XX. of the Act of 1858." This special committee consisted of Dr. McVail (chairman), the President (*ex-officio*), Dr. Norman Moore, Mr. Bryant, Mr. Young, Sir Hector Cameron, Sir William Thomson, and Mr. Ball.

Dr. MCVAIL moved that the report should be received and entered on the minutes.

Exception was taken to several parts of the document, and especially to a "minority" report at the end of it. It was claimed that the latter ought to be signed by the minority who asked it to be presented to the Council. Dr. NORMAN MOORE admitted that he and Mr. Bryant, the representatives respectively of the Royal College of Physicians of London and the Royal College of Surgeons of England, were the minority in question, and said that there was no objection whatever on their part to put their names to the report. Among other corrections agreed to were the deletion of words relating to the University of Durham and the insertion of words to secure accuracy and to give prominence to the fact that the Royal College of Physicians of London is the only individual medical corporation able to grant a complete qualification in medicine and surgery. The report as amended was then put on the minutes. The following (which excludes matter contained in no fewer than 42 printed octavo pages) formed the most interesting portion of it, and as far as the end of "conclusions by the committee" (pages 43 to 53) it was read by Dr. MCVAIL:—

Summary of Narrative.

The principal events in the foregoing narrative may be briefly summarised as follows:—

In June, 1890.—Adoption of five years' course after registration; physics, chemistry, and biology to constitute the first year. These to be studied in universities, medical schools, or in teaching institutions that are recognised by the licensing bodies.

In May, 1893.—The Medical Council codified its resolutions into requirements and recommendations, the former to be enforced, if necessary, by action taken under Clause XX. of the Medical Act, 1858.

December, 1894.—The Council by resolution authorised chemistry, physics, and biology to be taken before registration at teaching institutions recognised by the licensing bodies, but a full five years of curriculum after registration was still to be enforced. The licensing bodies were requested to send annually lists of the institutions so recognised—after inspection. (So far the Medical Council did not assert a right of approval.)

December, 1898.—A letter read from the Royal College of Surgeons of Ireland calling attention to the large number of teaching institutions recognised by the English Conjoint Board—many of them grammar schools.

June, 1899.—The Medical Council decides that the scientific institutions (the term "teaching institution" disappears) at which study in chemistry, physics, and biology shall qualify for registration in the Students' Register must not only have been recognised by one or more of the licensing bodies, but must also have been approved by the Council.

December, 1899.—Refusal of English Royal Colleges to recognise the right of approval as belonging to the Council, or that the Medical Acts gave the Council any authority to impose conditions regarding the registration of medical students.

December, 1900.—Memoranda, counsel's opinions, &c., considered, and Council decides to adhere to requirements, and in effect precludes the registrars from registering students of unapproved institutions, but invests the Students' Registration Committee with powers to deal for the present with such cases.

June, 1901.—The English Royal Colleges intimate to the Council that they no longer require candidates for their diplomas to be registered in the Students' Register.

December, 1901.—The English Royal Colleges in their latest regulations require their candidates to have passed a preliminary examination that is recognised by the Colleges—not, as heretofore, a preliminary examination recognised by the Medical Council. Up to the present the list of preliminary examinations of the Colleges is identical with that of the Medical Council.

The Council appointed the Committee engaged in the present report, and decided to hold a special meeting to consider it.

Observations by Committee.

From the foregoing narrative of events it will be seen that from 1890 to 1894 one matter was in dispute between the Conjoint Board of England and the Medical Council, and that since the end of 1898 the variance has been on quite another question. In the former period the Colleges desired that recognition should be given to the study of the three science subjects prior to registration, and after a four years' struggle the Medical Council yielded. In the latter period the dispute has been about the institutions to be recognised at which the three preliminary science subjects might be studied. The Colleges, between 1894 and 1898, had been according recognition to a large number of institutions, some of which had been inspected by the Colleges whilst others had been inspected by the Science and Art Department only, and when quite suddenly the attention of the Medical Council was called to this circumstance it began to remonstrate with the Colleges, at first mildly, but these bodies remaining obdurate, the Council passed resolutions gradually more and more stringent, until finally it in effect refused to register students entering at institutions which it itself had not approved. As to the merits of the institutions as places of study for the first year of the curriculum, the Colleges hold that in all of them the teaching is adequate, but in this opinion the Council has not concurred. Quite clearly it was the intention of the Council, when it decreed the five years' professional course in 1890, that physics and biology should be taught as to scope and standard just as chemistry had been taught prior to 1890. Chemistry had a place in the old curriculum beside anatomy and physiology and other branches of medical science. A course during a full session of systematic chemistry had been imposed, just as a systematic course of a full session in anatomy was required, and instruction in practical chemistry of a duration of at least two months and a half was demanded. In every respect chemistry had been an integral subject of the medical curriculum to be taught in a university, a recognised medical school, or in a college of science. When physics and biology were introduced into the curriculum and the period of the curriculum was extended to five years the Medical Council intended that these subjects should receive, in relation to the time to be given to them respectively, place and consideration not inferior to those accorded to chemistry or any other subject of medical study. The Council did not contemplate these two new subjects as being taught together with ordinary school subjects in day-schools, and still less that the teaching of chemistry should be reduced with them to an ordinary school level. The Council had permitted the introduction of the words other "teaching institutions" without perhaps apprehending the direction and the length to which this concession would lead. When the Council at the end of 1898 had awakened to some appreciation of the results of its concession in 1890, it began to take steps to arrest and correct the evil. But all such efforts the London Colleges have opposed most strenuously, until the rupture is complete, and the Colleges will confer their diplomas without regard to the Medical Council's directions and resolutions. In 1899 and in 1900 the Council has, by large majorities, repeatedly in its resolutions expressed its opinion that under the widespread recognition of institutions by the London Colleges the study of the three science subjects is not sufficiently safeguarded as to its scope and standard, and

has stated its determination to recognise only scientific institutions that have specially been approved by the Council itself. The Colleges hold that the Council has no power under the Acts to impose such requirements on them, and generally that the Council, may, on such points, only tender advice which a licensing body may accept or decline.

What, then, actually are the powers of the Council in regard to the matter in consideration? The General Medical Council derives all its authority from the Medical Acts, particularly the Acts of 1858 and 1886, and the Council is bound to administer these Acts. The preparation of a Register containing the names of all practitioners duly qualified in terms of the Act was the first important work to be undertaken by the Medical Council, and the supervision of the Register remains its chief duty. The Act requires the Council to enter in the Register the names of persons who have received medical degrees and diplomas from bodies that are mentioned in Schedule (A) of the Act of 1858; and, since 1886, persons who have received diplomas from conjoint boards of medical and surgical corporations as defined in the Act of 1886, or of single corporations under conditions as to additional examiners appointed by the Council as provided for in that Act. At present there are 12 universities in the United Kingdom, and one corporation, each of which grants qualifications that entitle to registration; there are three conjoint boards, each of which gives qualifications that must be registered on application by the recipients, and there are two single corporations, which, having been provided with the necessary additional examiners, also confer registrable qualifications. In all, then, there are 17 bodies in the United Kingdom whose graduates and diplomates are entitled to be put on the Register.

The question then is, has the Council acted without legal power or do the Acts of Parliament confer upon it the power which it claims?

It was open to Parliament in framing the Act of 1858 to require the Medical Council to register every graduate and diplomate of every one of the bodies, or combinations of bodies, without any question and without any voice as to the conditions of study and examination, each body being a law to itself. Or the Act might have given to the Council absolute powers as to receiving or declining any of the various degrees and diplomas. The Council might have had power to strike off and to readmit any qualification according to its dissatisfaction or satisfaction with the conditions under which the qualification is granted. Neither of these courses was adopted, but the Act did not leave the bodies free to confer qualifications entirely as each might think fit and on any terms it might individually decree. The Act (Section XXI) confers on His Majesty and the Privy Council the power, if they see fit, to order that any qualification granted by any of the bodies may cease to confer any right to be registered under the Act, and His Majesty and the Privy Council have also the power of revoking any such order of deprivation. But the Privy Council cannot act thus on its own initiative; it can act only as regards an order for deprivation on a representation by the Medical Council. No provision exists by which such representation can be made by any authority other than the Medical Council and this representation must be that the course of study and examinations to be gone through, required by the college or body regarding which the representation is made, are not such as to secure the requisite knowledge and skill for the efficient practice of the profession. The manner in which the Medical Council is to acquaint itself with the courses of study and examinations is laid down in Section XVIII. of the Act, which gives the Council the power to ask from the several Colleges and bodies in Schedule (A) from time to time such information as the Council may require as to the courses of study and examinations to be gone through in order to obtain the respective qualifications, and generally as to the requisites for obtaining such qualifications; and any member or members of the Council, or any person or persons deputed by the Council, may attend such examinations. Section XX. of the Act is:—

"In case it appear to the General Council that the course of study and examinations to be gone through in order to obtain any such qualification from any such College or body are not such as to secure the possession by persons obtaining such qualification of the requisite knowledge and skill for the efficient practice of their profession, it shall be lawful for such General Council to represent the same to Her [His] Majesty's most Honourable Privy Council."

The Council thus has laid upon it the obligation of deciding this point as to the standards of study and examinations. Under the Act of 1858 the voice of the Council alone can be heard by the Privy Council as to this point in regard to the sufficiency or insufficiency of study and examinations. There appears to be no provision in Section XXI. whereby the Privy Council can receive evidence or opinions relating to study and examinations otherwise than through the Medical Council.

But in the Act of 1886, Section 4 modifies Section XXI. of 1858, and is as follows:—

"4.—(1) If at any time it appears to the General Council that the standard of proficiency in medicine, surgery, and midwifery, or in any of those subjects or any branch thereof, required from candidates at the qualifying examinations held by any of the bodies for the time being holding such examinations is insufficient, the General Council shall make a representation to that effect to the Privy Council, and the Privy Council, if they think fit, after considering such representation, and also any objections thereto made by any body or bodies to which such representation relates, may by order declare that the examinations of any such body or bodies shall not be deemed to be qualifying examinations for the purpose of registration under the Medical Acts; and Her Majesty, with the advice of Her Privy Council, if, upon further representation from the General Council or from any body or bodies to which such order relates it seems to her expedient so to do, shall have power at any time to revoke any such order.

"(2) During the continuance of any such order the examinations held by the body or bodies to which it relates shall not be deemed qualifying examinations under this Act and any diploma granted to persons on passing such examinations shall not entitle such persons to be registered under the Medical Acts, and any such body shall not choose either separately or collectively with any other body a member of the General Council; and the Member (if any) for the time being representing such body in the General Council shall, unless he was chosen by such body collectively with any other body not subject to an order under this section, be suspended from taking part in the proceedings of the General Council.

Thus the Privy Council must hear and consider "any objections thereto made by any body or bodies to which such representation relates." Does this apply to the sufficiency or insufficiency of the courses of study of Sections XVIII. and XX. of the Act of 1858, and the first section of the Act of 1886 is that the Act is to "be construed as one with the Medical Acts"? Apparently, regarding courses of study, the Medical Council only can be heard by the Privy Council.

How, then, should the Medical Council proceed in this relationship which it bears to the Privy Council and the bodies enumerated in Schedule (A)? Obviously its primary duty with regard to the bodies is to inform them as to its opinions regarding the courses and standards of study, and the scope and standard of examinations which each body should as a minimum require. To refrain from doing this would be unfair and vexatious; were it to deny information as to the standards it approves, the bodies in ignorance of its requirements would necessarily act each according to its own judgment; insufficiency here and there might occur, and the Council might be repeatedly reporting to the Privy Council, or otherwise would be neglecting its duty. To formulate, therefore, a minimum course of study was obligatory on the Council as one of its earliest duties when it was first constituted, and that duty it performed, and has continued to perform during the 43 years of its existence. It has always set forth a curriculum, which it has amended and extended from time to time with the progress of education and the advancement of medical science. Had the Council refrained from formulating a minimum curriculum, and had it in the absence of such a curriculum made a representation to the Privy Council of insufficiency of study on the part of any body in Schedule (A), it appears probable that the Privy Council would have ordered the Medical Council to lay down forthwith a minimum curriculum of study for the guidance of the bodies. The present action of the Royal Colleges of Physicians and Surgeons of England in refusing to regard the Medical Council's resolutions as other than mere recommendations which they may adopt or ignore, is contrary to the view above expressed as to their duty under the Medical Acts. It seems inconsistent with the conduct of their own representatives on the Council, who always, before the present differences arose, took a large, important, and enlightened share in the formulation of a curriculum.

Clause XVIII. of the Medical Act of 1858 reads as follows:—

"The several Colleges and bodies in the United Kingdom mentioned in Schedule (A) to this Act shall from time to time, when required by the General Council, furnish such Council with such information as they may require as to the courses of study and examinations to be gone through in order to obtain the respective qualifications mentioned in Schedule (A) to this Act, and the ages at which such courses of study and examination are required to be gone through, and such qualifications are conferred, and generally as to the requisites for obtaining such qualifications; and any member or members of the General Council, or any person or persons deputed for this purpose by such Council, or by any Branch Council, may attend and be present at any such examinations."

The Medical Council is to obtain information regarding the courses of study required by, and the standard of the examination conducted by, the various licensing bodies. It is clear that any registrable qualification is not to be granted after study alone or after examination alone. Were examination ever to become the only safeguard to the Medical Register, it would require to be, as to scope and character, entirely different from any examination that has ever been conducted by any medical licensing authority in the United Kingdom. All the present examinations would be altogether inadequate as they can only test here and there the knowledge of a candidate. They do no more than merely sample his attainments. A curriculum of study is assumed in the case of every student. He produces certificates that he has spent a prescribed time in the study of a large number of subjects, and in addition that he has given a prolonged attendance at clinical and other practical work. It is on this basis that the examiners investigate his proficiency in any subject. Examination can never adequately guard the portals of the profession where the courses of study have been insufficient. Therefore it is that the obligation is imposed on the Medical Council to regard both study and examination to the extent of securing the possession of the requisite knowledge and skill in the case of every person presenting a qualification which they are to register. If the courses of study of the three science subjects recognised by the English colleges are unsatisfactory in this respect then the mere standard of examination cannot supply the deficiency.

The institution of the Medical Register was for the protection of the public; only persons of sufficient skill were to be admitted to it. 43 years have passed since the first Medical Act became law and in the interval medical science has advanced at a rate never equalled in the former history of the world. The first curriculum required by the Medical Council differs greatly from that required to-day. The Council has consequently from time to time increased its requirements. An adequate knowledge of physics and biology is essential in the study of modern physiology, pathology, and bacteriology, as these in turn are essential to medicine and surgery. The new subjects should be studied under conditions not less stringent and exacting than those that apply to the older subjects of the curriculum.

Conclusions by the Committee.

I. The Medical Council has decided that the scientific institutions other than universities or recognised medical schools, at which the courses of study in chemistry, physics, and biology may be taken by students as part of their medical curriculum, are to be approved by the Medical Council prior to registration in the Students' Register of students commencing their studies at those institutions.

II. The Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England, notwithstanding repeated remonstrances made to these Colleges by the Medical Council, continues to recognise courses of study in a large number of teaching institutions that have not been approved by the Medical Council, and does not now require evidence of registration in the Students' Register, nor that the students shall have passed a preliminary examination recognised by the Medical Council, but a preliminary examination the recognition of which is determined by itself.

III. The Conjoint Board of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, although requiring evidence that candidates who present themselves at their first professional examination, which includes the subjects of physics, chemistry, and biology, shall have been registered in the Students' Register, and thus must have taken the courses of study in these

subjects at institutions which have been approved by the Medical Council; nevertheless, this Conjoint Board admits candidates to its second and subsequent professional examinations when such candidates produce evidence that they have passed the first professional examination of the Conjoint Board of England, and that the regulations of the Scottish Conjoint Board do not require in such cases evidence that the courses of study in chemistry, physics, and biology undergone by such candidates have been so undergone at scientific institutions which have been approved by the Medical Council.

IV. The Society of Apothecaries of London, although requiring evidence that candidates who present themselves at its first professional examination, which includes the subjects of chemistry, physics, and biology, shall have been registered in the Students' Register, and thus must have taken the courses of study in these subjects at institutions which have been approved by the Medical Council; nevertheless this Board admits candidates to Part II. of its primary professional examination when such candidates produce evidence that they have passed the first professional examination of the Conjoint Board of England, and that the regulations of the Society of Apothecaries do not require in such cases evidence that the courses of study in chemistry, physics, and biology undergone by such candidates have been so undergone at scientific institutions which have been approved by the Medical Council.

V. The University of Oxford prescribes practically no curriculum of study to be undergone by candidates previous to their admission to the professional examinations conducted by that university for its degrees in medicine, nor does it require candidates to have been engaged in medical study for any definite minimum terms of years, and it does not require evidence of registration in the Students' Register. It asks only that candidates for its second and final examinations for the M.B. degree "must present certificates of instruction in infectious diseases and mental diseases, and of attendance in labours and of proficiency in the practice of vaccination."

VI. The University of London admits candidates to its preliminary scientific examination, which is one of the examinations for the medical degree, altogether irrespective of evidence of study in these subjects at any scientific or teaching institutions. As regards the remaining subjects of the medical curriculum the University of London requires evidence only that five of 11 subjects which it enumerates shall have been taken in universities, schools of medicine, and hospitals approved by it. The university does not require evidence of registration in the Students' Register, but it does require that candidates for its medical degrees shall have been engaged for five years in medical study subsequently to their having passed their matriculation examination, and four years subsequently to having passed the preliminary scientific examination.

Recommendations by the Committee.

The committee recommends the Medical Council to adopt the following resolutions:—

I. That many courses of study in the subjects of physics, chemistry, and biology are accepted by the Conjoint Board (constituted in terms of Section III., Sub-section (i.), paragraph (*b*), of the Medical Act of 1886) of the Royal College of Physicians of London and the Royal College of Surgeons of England as parts of the curriculum to be gone through in order to obtain the respective qualifications of these bodies, which qualifications are mentioned in Schedule (A) of the Medical Act, 1858, and admit to the Medical Register; and that these courses of study of chemistry, physics, and biology, pursued at institutions which are not universities or recognised medical schools or scientific institutions approved by the Medical Council, do therefore not secure that the persons who pursue such courses of study, and who afterwards obtain the qualifications of the Royal College of Physicians of London and the Royal College of Surgeons of England, possess the requisite knowledge and skill for the efficient practice of their profession.

II. That many courses of study in the subjects of physics, chemistry, and biology are accepted by the Conjoint Board (constituted in terms of Section III., Sub-section (i.), paragraph (*b*) of the Medical Act of 1886) of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, under No. 10 of the regulations of that board as parts of the curriculum to be gone through in order to obtain the respective qualifications of these bodies, which qualifications are mentioned in Schedule A of the Medical Act of 1858 and admit to the Medical Register, and that these courses of study of chemistry, physics, and biology pursued at institutions which are not universities or recognised medical schools or scientific institutions approved by the Medical Council do not secure that the persons who pursue such courses of study and who afterwards obtain the qualifications of the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow possess the requisite knowledge and skill for the efficient practice of their profession.

III. That many courses of study in the subjects of physics, chemistry, and biology are accepted by the Society of Apothecaries of London (which under Section V., Sub-section (i.), of the Medical Act, 1886, grants qualifications admitting to the Medical Register), in terms of the fourth paragraph on page 3 of the regulations of the Society of Apothecaries, as parts of the curriculum to be gone through in order to obtain the qualification of this body, which qualification admits to the Medical Register; and that these courses of study of physics, chemistry, and biology pursued at institutions which are not universities or recognised medical schools or scientific institutions approved by the Medical Council, do not secure that the persons who pursue such courses of study and who afterwards obtain the qualification of the Society of Apothecaries of London possess the requisite knowledge and skill for the efficient practice of their profession.

IV. That as the University of Oxford grants its medical degrees after examination only, and without evidence that any courses of study in the subjects of the curriculum laid down by the Medical Council have been undergone by candidates for these degrees; the possession of such degrees, which are qualifications admitting to the Medical Register, does not in terms of Section XVIII. of the Medical Act of 1858 secure that the persons holding the degrees possess the requisite knowledge and skill for the efficient practice of their profession.

V. That the attention of the governing body of the University of London, which is at present engaged in framing regulations under the new constitution of the University, be directed to the requirements of the Medical Council regarding the medical curriculum, and to Clauses XVIII. and XX. of the Medical Act of 1858, which impose on the Medical Council the duty of insuring that the courses of medical study pursued by candidates for a registrable qualification shall be sufficient to insure along with an adequate standard of examination that the persons who obtain the qualification shall possess the requisite knowledge and skill for the efficient practice of their profession.

VI. That the University of Durham, by recognising all the courses of study which are recognised by all the licensing bodies in Schedule A of the Medical Act, 1858, accepts many courses of study in the subjects of physics, chemistry, and biology which have been recognised by the Conjoint Board of England, but have not been approved by the Medical Council, as parts of the curriculum to be gone through in order to obtain the medical degrees of the University, which are qualifications mentioned in Schedule A of the Medical Act of 1858, and admit to the Medical Register; and that these courses of study of chemistry, physics, and biology pursued at institutions which are not universities or recognised medical schools or scientific institutions approved by the Medical Council do not secure that the persons who pursue such courses of study, and who afterwards obtain the medical degrees of the University of Durham, possess the requisite knowledge and skill for the efficient practice of their profession.

VII. That the President be requested to communicate the foregoing resolutions of the Council to the licensing authorities to whom they respectively refer, and that the President be further requested to call the earnest attention of these bodies to the obligations under which the Council will be placed in November next to represent to His Majesty and His Most Honourable Privy Council in terms of Section XX. of the Medical Act of 1858 the insufficiency of the courses of study required by these bodies from candidates who seek their registrable qualifications and to express the hope that when the Council meets in November it shall receive assurances from these bodies that they will give effect to the Council's requirements as to courses of study and curriculum and thus relieve the Medical Council from the necessity of making any such representation.

VIII. That the University Courts of the Scottish Universities be requested to frame new ordinances by which the provisions of Clause X. of the present ordinances which permit that in certain cases the full period of the medical curriculum may be four years only shall be abrogated and that the new ordinances shall provide for a five years' medical curriculum being in all cases required.

IX. That the Education Committee shall in future be designated the Education and Curriculum Committee, and that in addition to its present duties the committee shall report annually to the Medical Council regarding the curricula of the licensing bodies.

(*Signed by* DR. MC VAIL.)

Minority Report.

I. We, having considered the numerous differences in detail as to the courses of professional study required by the several qualifying bodies, are of opinion that, even if it were desirable, it is impossible to obtain absolute uniformity, and recommend the Council to withdraw its late resolution requiring the approval by the General Medical Council of the scientific institutions recognised as places of study by the qualifying bodies.

II. We are of opinion that the powers claimed by the Council in this particular do not exist.

(*Signed by* MR. BRYANT *and* DR. NORMAN MOORE.)

The PRESIDENT informed the Council that two opinions relating to the subject before them had been obtained from Mr. Muir Mackenzie, their counsel. One related to the curriculum, and the other had a very important bearing on the report and the discussion which might take place on it. They had been put in print, but had been marked "strictly private and confidential." He thought, however, that they should form a part of the papers in the case, and he moved accordingly.

Mr. BROWN: Should these be made public?

The PRESIDENT: This is a public question, and I have no doubt that the opinions will be referred to repeatedly during the course of the discussion.

The motion was agreed to, and the two opinions, as follows, were entered on the minutes:—

I.

Question submitted by the Curriculum Committee.

Should the Medical Council be of opinion that a licensing body, whose qualification or qualifications admit to the Medical Register, accepts courses of study pursued by candidates for its qualification or qualifications, which courses of study do not, in the opinion of the Medical Council, secure that the candidates who have undergone them and who, after passing the qualifying examination of the licensing body, receive its registrable qualification or qualifications, shall possess the requisite knowledge and skill for the efficient practice of their profession, is the Medical Council empowered to represent to His Majesty and His Most Honourable Privy Council that the qualifications granted by the licensing body are not such as to secure that the persons who receive them possess the requisite knowledge and skill for the efficient practice of their profession?

Opinion.

My opinion is that the General Council can, if necessary, dissociate courses of study from examinations, and in the case above described can represent to the Privy Council that the courses of study to be gone through by candidates for the qualification of the licensing body are not such as to secure that the persons who receive the qualification possess the requisite knowledge and skill for the efficient practice of their profession. M. MUIR MACKENZIE.

February 22nd, 1902.

II.

Representation to the Privy Council; Opinion.

The first question in which, as I understand, my opinion is desired is whether, in the case of one or more of the licensing authorities, if the General Council takes no exception to the qualifying examination prescribed by the Medical Act, 1886, and the standard of proficiency required from candidates at those examinations, the General Council

can nevertheless, if dissatisfied with the course of study prescribed and accepted by such licensing authorities, represent to the Privy Council that the course of study is defective (I propose to use the single expression "defective" to avoid repetition of the longer words in the Act —"not such as to secure the possession by persons obtaining such qualification of the requisite knowledge, &c.) within the meaning of Section XX. of the Medical Act, 1858.

On this question my opinion is as follows:—

The enactments in the Medical Act, 1886, do not supersede the enactments in the Act of 1858. Both sets of enactments are to be read and applied as if they were contained in one Act. The Legislature has not made examination the test, and the only test, of the possession by a candidate for admission to the medical profession of the necessary knowledge and skill.

Although in Sections XVIII. and XX. of the Act of 1858 the words used are "courses of study and examinations," it will be observed that in Section XXI. of the Act the words are "course of study *or* examinations, *or* the mode of conducting such examinations." Again, in Section XVIII. of the Act, the Colleges and bodies mentioned in it are required to furnish information as to the ages at which courses of study are to be pursued, and generally as to the requisites for obtaining the qualifications.

In my opinion the Legislature has recognised and had regard to the principle that mere examination cannot be a sufficient test of professional knowledge and skill if the courses of study have been insufficient; and if in the opinion of the General Council the courses of study required by one or more of the licensing authorities are defective, the General Council can so represent to the Privy Council, notwithstanding that the General Council makes no representation on the subject of the examinations.

2. The second question is this: If one of the licensing bodies accepts as part of the course of study required from a candidate a course of study pursued in particular subjects at another institution, then, if the General Council does not approve of the institution as a teaching body, can the General Council represent to the Privy Council that the course of study of the licensing body is defective?

On this question my opinion is, that if the General Council is of opinion that the teaching and course of study in the particular subjects at the institutions whose courses of study are accepted by the licensing body are inadequate and defective, then the General Council would be within its powers in representing to the Privy Council that the course of study required by the licensing body is defective. So if one of the licensing bodies fails to exact from its candidates a sufficient or adequate course of study and teaching in particular subjects, such as chemistry and physics, the Council would be within its powers in representing to the Privy Council that the course of study required by the licensing body is defective.

But in a case in which the ground of objection by the General Council to the course of study required by a licensing body is that the teaching and course of study in special subjects at a particular school is accepted as part of the licensing body's curriculum, the Council could not properly make a representation to the Privy Council unless satisfied that the teaching and course of study at the school is in fact defective.

3. The third question is as to the powers and procedure of the Privy Council, as to which my opinion is as follows:—

The Act of 1858 empowers the Privy Council, upon the representation of the General Council, if it see fit, to order that the qualification granted by a licensing body shall cease to confer a right to be registered.

For the purpose of exercising this power the Privy Council would not be confined to considering the facts and views presented by the General Council. The Privy Council would have power, and in accordance with the procedure which it generally adopts, would hear the licensing body or bodies of whose courses of study complaint is made, and would not make an order depriving or suspending the qualification of the body from admission to the Register without being satisfied that the complaint that its course of study was defective was substantially justified.

4. The fourth question is substantially as to the extent of the duty and power of the General Council as to prescribing a curriculum or course of study which each licensing authority is to observe.

On this it will be observed that the enactments in the Medical Act of 1858 do not direct the General Council to prescribe courses of study, or (still less) to prescribe that every licensing body is to require as a minimum a specially defined course of study. The provisions of the Act leave each licensing body to prescribe its own course of study, the duty and power of the General Council being to exact information as to the courses of study and examinations, and to depute members of the Council and other persons to attend the examinations. It follows that the General Council's statutory duty is, strictly speaking, limited to requiring defects in the courses of study to be made good to the Council's satisfaction, and improvements, which the Council can specify, to be made in the courses of study and examinations.

A licensing body which declined to adopt in all respects a curriculum prescribed by the General Council would not, in my opinion, be deprived by the Privy Council of the right to have its qualifications admitted to the Register if it could establish to the satisfaction of the Privy Council that its prescribed curriculum was nevertheless not defective.

5. The fifth question has regard to the particular licensing bodies mentioned in the committee's report, on which my opinion is as follows:—

The cases of the University of Oxford and the University of London are simple. In effect these universities do not require any special course of study of the nature which in the General Council's opinion a candidate for a qualification ought to be required to pursue. Clearly, the General Council can make a representation to the Privy Council in relation to these universities, unless effectual provision is made by those universities, to the satisfaction of the General Council, for the improvement of the courses of study required by the universities.

As regards the other licensing bodies, the question relates in principle to the acceptance by each licensing body as part of its prescribed curriculum of a course of teaching or study at an institution of which the General Council does not approve. As I have already stated, my opinion is that if one or more of these bodies directly or indirectly accepts as part of the course of study required by a candidate for its qualifications a certificate that the candidate has pursued a course of study at another teaching institution, then if the General Council is of opinion, on sufficient grounds, that the teaching and course of study at the teaching institution is inadequate and defective, the Council can represent to the Privy Council that the course of study of the licensing body is defective; but it would be for the Privy Council in the exercise of its uncontrolled discretion to decide if, and if so to what extent, effect should be given to the representation.

4, Temple Gardens, E.C., Feb. 22nd, 1902. M. MUIR MACKENZIE.

Dr. MCVAIL, in then moving that the portion of the report which he had read be adopted, said that he would state the views of the majority of the committee, leaving it to the minority to present their own case. The first point he wished to direct the attention of the Council to was that nearly 12 years ago they decided to have the five years' curriculum of study, and decided, moreover, that physics and biology should be added to the curriculum. That had been passed by general consent. So far as he knew there was no evidence that there was any minority or any opposition whatever; at any rate, there was no adverse statement from any of the licensing bodies or from any representative of these bodies that there was disapproval of the action of the Council. Three years later the Council had seen fit to stiffen its regulations. The Education Committee of the day recommended that they should codify their resolutions regarding medical studies, dividing them into requirements and recommendations. The Council had adopted that suggestion, and it had codified its resolutions as regards study into requirements. These requirements were entirely requirements as to study and the Council therefore had assumed that it could make a representation to the Privy Council in the matter of study alone, without any reference to examinations; that was to say, if the study was "insufficient" the examination, whatever it might be, could not make up for deficiency in the study. That was in 1893. In that year there was a matter in dispute as to the time at which students should be registered—whether the registration should take place before or after the preliminary examination; but as the Colleges gave way to the views of the Council he need not go into that matter on the present occasion. After the lapse of five years—that was to say, in 1898—the Council were made aware that the Conjoint Board of England had recognised a very great number of teaching institutions, many of them no more than grammar schools, as places in which chemistry, biology, and physics might be taken by intending medical candidates. This information, he reminded the Council, came to them in a letter sent by the Royal College of Surgeons in Ireland, and had been reckoned so important that a remit was made to the Education Committee who subsequently reported that many of the schools recognised by the Colleges were not recognised by the Council and were not inspected for the purposes of medical education. The Council had consequently requested the Royal Colleges to reconsider their position, but they were met with a refusal. On this the matter again came under consideration and the Council decided that the institutions in which the first year's subjects were taken must not only be recognised by the licensing bodies but be approved by the Council. The English Royal Colleges refused to recognise any such right of approval to exist in the Medical Council, and not only that, but they stated that the Council had no power whatever to make requirements or resolutions that were binding on the licensing bodies, and if they did make such the bodies might give effect to them only if they saw fit. That was a new feature in the case. No longer was it a mere refusal to submit to approval, but a decided expression of opinion that the General Medical Council had no power whatever over the medical curriculum that any body under Schedule A might choose to adopt. The Council then passed one of the most important resolutions ever placed upon the minutes, as in effect it refused to admit to registration on the Students' Register persons who took their course of the first year's subjects at institutions of which the Council had not approved. The next step was that the Royal Colleges absolved all candidates for their diplomas from the necessity of being registered in the Students' Register—and the preliminary examination passed by students of the Royal Colleges was thus no longer the preliminary examination recognised by the Council. These Colleges had thrown away every shred of dependence on the General Medical Council, and acted as if that Council did not exist at all. Small wonder, therefore, was it that other bodies had begun to move in the same lines and to say that they were not to be bound by the requirements of the Council if the English Conjoint Board were to be allowed to act independently of the General Council. Let them remember

the letter that came from Ireland during last session—the letter in which the authorities of Trinity College, Dublin, intimated that they would in future consider only the interests of medical students in Ireland without any reference to what the General Medical Council might determine. The views of Trinity College would be the view of the licensing bodies generally. Was it, then, any great wonder that the Council should have taken steps such as it did last session to settle this dispute between it and the English Royal Colleges? The report of the special committee just presented stated fairly and accurately the position of the Medical Council with regard to the licensing of practitioners. It showed what might cause a good deal of astonishment to many members of the Council—namely, widespread non-conformity with the Council's requirements. The English Conjoint Board, the University of Oxford, the University of London, the Scottish Conjoint Board, the Apothecaries' Society of London—all these deviated from the Council's requirements in their own special regulations. For this state of affairs the Council, he maintained, must take some blame upon itself. It ought to have taken action long ago. The striking diversity on the part of Oxford should not have been allowed to continue. No doubt Oxford had stood in a peculiar position, for it was only a few years since that it began to show development into a medical school. But matters were different now, because Oxford was rapidly becoming an important medical centre. As regards the University of London, that institution was at present being reconstituted. If the English Conjoint Board were at one with the Council the difference that the Scottish Conjoint Board's regulations showed would disappear; and he had no doubt that whether the English Conjoint Board conformed or not to the Council's requirements that difference would disappear. He wished to emphasise the fact that not one of the licensing bodies in the three kingdoms except the English Conjoint Board had declared that it would not in any way be bound by the requirements of the Council; not one of these bodies except the English Conjoint Board had stated that the Council had no power to make regulations. The English Conjoint Board stood alone; it alone of all the licensing bodies had defied the General Council. Now what was to be done? That question involved the other question of what the powers of the Council were. Had the Council authority over these licensing bodies or not? If it had no authority what an immense amount of time and money had the General Medical Council wasted. But had the Council no authority? It appeared to him that there was not the slightest doubt that it had power—that it was the supreme body so far as indicating what was the minimum amount of knowledge and skill which a person must possess before being allowed to practise. They were not to dictate uniformity, but they were to say what was the least amount of study and examination necessary for a uniform qualification. Then if these courses of study were not "sufficient" the Council had the power to make a representation to that effect to the Privy Council. It was part of their duty to do so. They should not be influenced by any fear that the Privy Council might humiliate them; they were not to be afraid to do their duty because the Privy Council might snub them. They were to do their duty; the Privy Council could do theirs. Now the General Council were satisfied that the course of study sanctioned by the English Royal Colleges for the first year's subjects was "insufficient." Although they had not yet said so in actual words, they had said so by implication, for they had directed their Registrar not to register in the Students' Register persons coming from the English Royal Colleges' preliminary examination. It was quite true that the Council had left the matter in the hands of their Students' Registration Committee. That committee, however, was one which dealt with suspicious, with doubtful, cases. It had been given to that committee to keep the door open to candidates coming from the Royal Colleges' examination, but the General Council had publicly decided, and by a large majority too, that the Colleges' course of study was "insufficient." Having recorded their opinion that there was insufficiency, what were they to do? They did not require to associate study with examinations before they could make a representation of insufficiency. The opinion of Mr. Muir Mackenzie showed clearly that, if necessary, the Council could dissociate courses of study from examinations. The Council had no power to inspect the schools recognised by the English Conjoint Board, and he asked if there was need for such inspection. He did not think so. As regards the course of study in connexion with the various licensing bodies they could go to the official papers issued by these bodies to find out what their regulations were. And so in connexion with the English Royal Colleges. From the syllabus of the Royal Colleges which he held in his hand he saw that these Colleges were recognising a vast number of schools, not universities or medical schools, and that there was considerable difference in the subjects of the first and second examinations. He found, moreover, that the candidate need only give evidence that he had "received" instruction, but there was no information afforded as to how the student was to study or what he was to do during the year, and there was no word to indicate that the four subjects of chemistry, biology, physics, and pharmacy might not be taught by one man.

Dr. NORMAN MOORE: There is not the slightest doubt that these subjects would be taught by different teachers.

Dr. MCVAIL protested that there was no indication as to how these subjects were to be taken and how much of them were to be taken. They knew, then, that they did not know the condition of these Colleges as regards the subjects of study. It was that information they wanted. They ought to obtain information as regards the course of study. He found that the Conjoint Board's programme showed, for instance, that physics was not mentioned except as chemical physics. Two questions were set in chemical physics and the student did not require to answer more than one of them. But the Colleges' physics were chemical physics—not the physics of the General Medical Council. As regards biology there were no written questions prescribed, yet everyone knew that oral examination in biology was not sufficient. What he had just mentioned convinced him that the Council had quite sufficient information as regards the courses of study prescribed and that the Medical Council was within its rights to order its Registrar to cease to register students from the Royal Colleges. But the Council could not stop here. They must go further or they must recede. The minority recommended that they should rescind their resolution. Would they go back on their work of the past 12 years? If they did not they could do nothing else than fulfil their duty under Section 20 of the Medical Act. A great deal had been said during the discussions on this subject about ancient charters, but what he maintained was that all the rights anybody could have under any charter when these conflicted with the provisions of the Acts of 1858 and 1886 had disappeared or could be exercised only in conformity with these Medical Acts. No doubt some of these charters were venerable, but that should not prevent the Council from doing their duty, which was to care for the Medical Register and see that no one unfit was to be admitted to it, or if admitted to it was not retained on it. Should this General Medical Council perform its duty to the public or not? Were these English Royal Colleges to frighten the Council by telling them that they had no power to lay down rules that the medical licensing bodies were bound to observe? It was time to say otherwise, for if the present condition of affairs was passed over without the necessary action on the Council's part, within the next twelvemonth the control of medical education by the General Council would be practically defunct. The Privy Council alone, he believed, could now provide a solution of the difficulty.

Dr. YOUNG formally seconded the motion.

No one rose at once to continue the discussion, and the PRESIDENT asked whether any member wished to speak.

Dr. NORMAN MOORE, after being specially named and after a pause, rose and said that any remarks which he might make at that stage of the debate would be brief. Dr. McVail had given a full account of what the Special Committee had done, and he had to thank him for the great consideration which he, as chairman, had shown to the minority in the committee. Every courtesy had been shown to that minority, and no attempt whatever had been made to slur over their objections. Both Mr. Bryant and he had sat on the committee not as representatives of the English Royal Colleges but as members of the General Medical Council, and he considered that the report as now presented was much better than it was in its first draft because of the heed which had been given to the minority's views on certain portions which had been submitted for the committee's approval. He wished the Council to know this. Dr. McVail in his very able speech had put the case with all the force with which it was capable of being put. But there were some chance phrases in that speech which should not be passed

over without notice. Dr. McVail had spoken of the English Royal Colleges defying the General Council. "Defying" was a word that should not be used. The Royal Colleges would never be in the frame of mind to defy the General Council, and they in no way offered defiance. The question between them and the Council was a question of the discussion of matters of public importance, and they might differ in opinion as regards it, but they did not defy the Council. They differed for the reasons given. They accepted the Council's reasons with respect, and they expected that the Council would receive their reasons with equal respect. Dr. McVail had said that the course of study prescribed by the Royal Colleges was "insufficient." How was that to be known? Surely the knowledge must be derived from observation, study, and inquiry. All the schools recognised as teaching institutions by the Royal Colleges were good, and before the Council said that the College's course of study was insufficient or that the schools were improper there ought to be inquiry. Unless the Council investigated the whole subject, he maintained that it was not right to assert that the secondary school was not a suitable place in which to give preliminary medical education, and that its course of study was insufficient. The Royal Colleges did not think that the course of study they asked for was insufficient. They had examined the schools that were on their list, and until the Council did so too they would not be on an equal footing with the Colleges. There was no practical difference between the curriculum which the Colleges recognised and that which the Council recognised. The Colleges did not propose to introduce a class of "juniors," and all talk about "boys" should cease. He believed that the course which the Colleges had followed was the best course, and therefore he implored the Council to get rid of the idea about the introduction of little boys and such like. Dr. McVail was puzzled as to the amount of work that was to be done in the preliminary subjects. He must remind him that the curriculum of study and examinations could not be separated. The two had to be considered together, and if the student had to pass a definite examination that was security enough to obtain sufficient attention being given to study. Therefore the objection as to possible inadequacy of study fell to the ground. He felt reluctant to say anything about the proposed appeal to the Privy Council, and he felt reluctant to deprecate such an appeal because it would mean inquiry. The Colleges had their duty to do. Their conduct would bear investigation. Their reasons for adopting the course they had taken were perfectly sound. They would like to agree with the Council, for the object of both—the making of medical education thorough and efficient—was the same, but as regards the course which the Colleges had taken in respect to the early subjects the Colleges thought that the Council was wrong and that they themselves were right. The only difference which there was between the Colleges and the Council was that the Colleges allowed studies to be pursued at institutions which, after investigation, they thought to be sound places of study. The whole question rested on that point, and if the Council wished to take the course suggested it should go thoroughly into the matter and ascertain if their views were sound. Let it inspect the institutions complained of, but let it do so before going to the Privy Council.

A motion by Dr. PAYNE for the adjournment of the debate was agreed to, and

The Council adjourned.

WEDNESDAY, FEB. 26TH.

The Council resumed, Sir WILLIAM TURNER being in the chair.

In the course of the adjustment of the minutes of the previous sitting the PRESIDENT announced that the writer of the letter with reference to the Midwives Bill which he had quoted was Mr. Heywood Johnstone, M.P., one of the promoters of the Bill.

The Debate on the Curriculum.

The Council resumed the debate on the motion of Dr. McVail for the adoption of the first part of the report of the special committee on the curriculum.

Dr. PAYNE called attention to the references in the report to the University of Oxford. In the first place, he took exception to the University being referred to at all by the committee which he held was appointed to inquire only into the differences existing between the Council and the two English Royal Colleges. The relations of the University of Oxford with the Council had always been of the most harmonious character. It was not the case that the university did not recognise the Students' Register of the Council. It recognised the Register and had done more to encourage the Council's action in connexion with it than perhaps any other qualifying body. Every medical student at Oxford was told or advised that he ought to be registered, and it would be found that every medical student there or preparing for the medical profession there was registered. As the university preliminary examination responsions did not altogether meet the views of the Council the university had taken a step which he did not think any other university had taken—namely, that of making a special examination. It was perfectly true that the university did not require the registration of students by the Council as a necessary condition of obtaining a degree. It was not certain that the university had the power to make such a condition, but in any case it would involve a change of a fundamental character. What the university did was to tell the students that they ought to be registered.

Sir CHRISTOPHER NIXON said that in his opinion the Council would be very unwise if it exercised its powers of intervention in cases where it was satisfied that a high standard of education was maintained—a standard very much higher than any level laid down in the ordinary requirements and regulations of the Council. The duty of the Council was to see that only persons duly educated were allowed to enter the profession, and if the Council was satisfied that a body like the University of Oxford had a higher standard than these regulations and requirements he thought that it would be unwise for the Council to interfere with vexatious restrictions. He thought that it was an extraordinary thing that this special committee should recommend that the President should write an official communication to, amongst other bodies, the University of Oxford and the University of London, instead of politely and courteously telling them that the Council had certain regulations and requirements and asking them in the interests of medical education and in order to secure uniformity to comply with them. If such a communication as was proposed were sent to the Senate of the Royal University of Ireland it would be thrown into the waste-paper basket. As to the general question, there had been some change in the situation. The question now was not merely the question of the scientific institutions recognised by the two English Royal Colleges but the efficiency of the courses of study. After calmly reviewing the situation it seemed to him that in this matter there had been faults upon both sides. The Council had been in error. For one thing it had had no information about the institutions to which exception was taken, and in the absence of definite information he did not think that it would be wise to take the matter before the Privy Council. On the other hand, he did not consider that the two Colleges had treated the Council with the amount of consideration to which it was entitled. He believed that the Council had power to put the matter before the Privy Council. He believed the Council had power to deal with medical education in the broadest sense, but it ought to exercise its power with moderation. Was the Council prepared to go before the Privy Council and say that the courses of study in the institutions which the Council did not recognise were defective? Where was the Council to get its information to support such a statement? The Council had not inspected the institutions, and if it attempted to do so its inspectors might be refused admission. There must in this case be mutual concessions. It seemed to him that the Royal Colleges had gone a certain length in the way of concession. Let the Council realise its position. Its position was a strong one. There could be no doubt that the Council had this power to supervise medical education from start to finish, but it should be careful how it exercised it.

Mr. BRYANT denied that the Royal Colleges had made any concession in the matter of the visiting of the institutions. It had been the custom of the Royal Colleges to visit the institutions and satisfy themselves as to the character of the teaching and the equipment. It was true that a few of the institutions had not been visited, but these were Government institutions under South Kensington guidance which had been inspected by Government inspectors. But behind this question there was the question of the power of the Council to enforce all its edicts. It was perfectly clear to him that

when the first Medical Act was brought forward there was not the smallest intention of taking away any of the rights and privileges of any of the licensing bodies, whether universities or colleges. It was true that a few years after the Council was formed there was a very severe struggle and a heated debate, principally emanating from the Scottish Members, in favour of having full authority so as to enforce the edicts of the Council. The Council, however, did not gain that point; it was defeated and he had always thought that since that time it had been fully recognised that the Council had no official power to compel the bodies to carry out its behests, that it could go no further than make recommendations. The Council had not the power, and he did not believe that the Government would give it the power, to bring down all the bodies to a level. At present there was competition amongst the bodies to raise the standard of medical education and he did not think that the English Royal Colleges had borne themselves ill in this competition. He believed that it would be a great mistake if the Council determined to go to the Privy Council to find fault with the Colleges. The Colleges themselves had no reason to fear such an appeal. They welcomed inquiry into the work they were doing and felt that the more it was inquired into the more would it be valued. His regret would be for the Council, for he felt that it had a weak case and would be sure to get a snub from the Privy Council.

Dr. P. HERON WATSON read to the Council a memorandum prepared by the Registrars of the Scottish Conjoint Board. It appeared, said the memorandum, that the regulations of the board did not conform to the requirements of the Council in three particulars, viz.—(1) that they recognised four teaching institutions in Scotland not recognised by the Council, two for physics, chemistry, and biology, one for physics and chemistry only, and one for chemistry only; (2) that they recognised those teaching institutions in England for physics, chemistry, and elementary biology which were recognised by the English Board; and (3) that they exempted from the first professional examination candidates who had passed the corresponding examination of the English Board and might, therefore, indirectly recognise the teaching of the institutions recognised by that board which were not approved by the General Medical Council. The registrars wished to remark that the Committee of Management had no desire to depart from the time-honoured usage of recognising for teaching purposes any institutions other than the ordinary medical schools, university and extramural. In making the departure they simply followed the lead of the English Board. At the same time they had to say that all the four institutions referred to were carefully inspected by the committee and the accommodation and appliances for teaching were found to be satisfactory. At the time these institutions were recognised the policy of the General Medical Council with regard to such recognition was, or appeared to be, much less pronounced and decisive than the form which it had recently assumed and the registrars believed that in according recognition the committee were quite unaware that they were running counter to the desire of the Council. The board had, however, insisted that the course of study should be five years from registration and that this should precede recognised study. As to the second point, if the English Board reduced their list of recognised teaching institutions to meet the views of the Council the Scottish list would *ipso facto* be reduced to the same extent. As a matter of fact, the registrars affirmed that no certificates from the schools in question had, so far as they knew, been submitted to them for inspection, and that the recognition of these schools was therefore, as far as they were concerned, only in theory. As regards the exemption of candidates from the first examination in virtue of their passing it at the English Board, it might also be said that such cases now rarely presented themselves, and the registrars could find no case in which the applicant so exempted had studied at one of the institutions in question.

Sir HUGH BEEVOR wished to say that while he felt perfectly sure that nothing was in the mind of the Apothecaries' Society of London which in any way would alter the relations of that society to the General Medical Council, he strongly deprecated proceeding on the lines of the recommendations submitted by the Special Committee.

Sir HECTOR CAMERON said that the non-conformity of the Scottish Conjoint Board in respect to the requirements of the Council was really more apparent than real. It was alleged that the board's regulations on two points differed from the regulations of the General Council. The first allegation was that the board recognised certain courses of chemistry, physics, and biology, before registration, but to the regulation permitting that there was attached this important proviso—"Provided always that the period of professional study after registration shall not be less than five years." That being the regulation of the Scottish Conjoint Board, they were certainly no sinners against the requirements of the Council. The second allegation against the Scottish Conjoint Board was that they recognised the early examination of the Conjoint Board of England. That allegation had truth in it, but the regulation was an old one. It had been on the by-laws from the formation of the Scottish Conjoint Board, and had not been added to or taken from. So their position was what it had always been.

Mr. YOUNG, replying to the President, said that as no substantial objection had been taken to that portion of the report now before the Council he would not take up time by commenting on anything that had been said.

Sir WILLIAM GAIRDNER intimated that he had no objection to the committee's report to the extent that it was before the Council, but he wished it to be known that he had the strongest objection to all the recommendations of the committee so far as they proposed appeal to the Privy Council, and that if these recommendations were brought forward he would oppose them to the utmost.

Dr. MCVAIL, in closing the debate, thought that nothing need be said by him in reply, because the report so far as the Council were asked to adopt it was merely a statement of facts. This, however, he might say in regard to Dr. Payne's remarks: the committee could not leave out Oxford University from their consideration, because Oxford University was a licensing body under the Medical Act of 1858, and no objection had been taken in the committee to the inclusion of Oxford.

Dr. PAYNE explained that his contention was that the report applied to the Royal Colleges. He had made no objection to the inclusion of Oxford. What he had said was that the Royal Colleges stood in one category, and all the other licensing bodies in another.

The Council then voted on the motion, when it was found that 17 were for it and only four against it.

Accordingly, Dr. McVail's motion that the committee's report as far as page 53 (the end of "Conclusions of the Committee") be adopted, became the finding of the Council.

After a quarter of an hour's adjournment for tea,

Dr. MCVAIL said that during the two days the Council had been in session he had heard a good deal from colleagues as to their views on the subject before them. The proposal to go to the Privy Council with a representation of the "insufficiency" of the curriculum of the Royal Colleges was undoubtedly an extreme step to take. It was, however, equally a difficult matter for the Council to stand still. He had been thinking over the situation, and had been led to question whether any third course was open to them. He had found that some members of the Special Committee who in committee had approved of the recommendations submitted in the report were now in doubt as to whether the time had come formally to ask the Council to adopt these recommendations. As a matter of fact, he found that some of the five members who formed the majority of the committee were not now prepared to support these recommendations, or even to ask the Council to pass them during the current session. In these circumstances, and considering the gravity of the step involved in passing a resolution to make a representation to the Privy Council, he was prepared to suggest that the Council might take the third way open to them. What he meant was that they might delay consideration of the committee's recommendations and at the same time decide that the Council should order an inspection of all the examinations of all the licensing bodies who included chemistry, physics, and biology as the early subjects in their course of study, and also ask from every licensing body full and definite information as to all the teaching institutions which they recognised, the nature of the teaching conducted thereat, the ages of the students, the qualification of the teachers, &c. They were entitled to ask for such information under Section XVIII. of the Act of 1858. If the Council were of opinion that consideration of the recommendations should be delayed, he was

prepared to accept that view on the understanding that there should be the inquiry which he had suggested.

The PRESIDENT: A resolution has been drafted on these lines.

Dr. MCVAIL: I was not aware of that.

The PRESIDENT: No; but Dr. MacAlister has a resolution in his hands. You will see it and see how far it meets your views.

Dr. MACALISTER said that certain resolutions which he had drafted he had intended to propose as an amendment to any motion for the adoption of the committee's recommendations. His idea was that they should, instead of taking the committee's recommendations, pass a general resolution in regard to the desirability of inspecting all the examinations of all the licensing bodies in chemistry, physics, and biology; but he now thought that they should concentrate any inquiry by them to and on schools. The only new bit of information which they had before them was that in respect to institutions recognised by the Royal Colleges and not on the Council's list. For his part, he believed that even if the Colleges further investigated the matter they would find that the curriculum in all the schools they considered satisfactory was such as would satisfy neither them nor the Council. At any rate, the Council were entitled to ask the Royal Colleges to furnish full and particular information as to the curriculum of the various schools which they recognised. No doubt the inquiry would be a troublesome one to them, but after all that had had taken place he did not hesitate to ask the Colleges to take any trouble that might be involved. In asking them to do it the Council would be acting distinctly within their powers, and after they had obtained the information sought for they would be in a vastly superior position to determine as to whether they should come to a decision on the sufficiency or insufficiency of the first year's study in institutions on the Royal Colleges' list. He read the draft of the resolutions which he was prepared to submit.

Dr. MCVAIL said that he would have no hesitation in seconding such resolutions.

Some conversation ensued as to what should be done with the committee's recommendations, and eventually it was decided that they should not be proceeded with during the current session. The report containing them had, however, been put upon the minutes, and because of that the recommendations would remain "to a certain extent, alive," and capable of revival at any future time.

Dr. PYE-SMITH said that he and members round about him appreciated the skill with which the report of the Special Committee had been drawn up, and the moderate tone in which Dr. McVail had asked for its adoption by the Council. He ventured, however, to think that the attitude which had now been assumed towards this subject by Dr. McVail was a statesmanlike one which would not diminish his influence. He could not help sympathising with Mr. Horsley in the prospect of "no fight," and he thought that there should be a clear understanding on this—that the majority of the Council did not really wish to quarrel if a quarrel could be avoided.

The following motions proposed by Dr. MACALISTER and seconded by Dr. MCVAIL were then unanimously agreed to:—

I.

That the Council, under the powers granted by Section XVIII. of the Medical Act, 1858, require the Conjoint Examining Board in England to furnish the Council with the following information regarding the course of study in chemistry, physics, and biology to be gone through by candidates for the qualifications L.R.C.P. London and M.R.C.S. England—namely, in respect of each of the teaching institutions recognised by the Royal Colleges, but not approved by the Council.

(*a*) What are the methods of instruction, theoretical and practical, adopted in the subjects of chemistry, physics, and biology?

(*b*) What time is devoted by students to the recognised course of study in each of these subjects?

(*c*) What subjects, other than chemistry, physics, and biology, are students permitted to study simultaneously with these subjects?

(*d*) What were the ages at the commencement of the recognised courses in these subjects of the students on whose behalf certificates of study were accepted by the Examining Board in the year 1901?

(*e*) What are the names and qualifications of the teachers of chemistry, physics, and biology who give the recognised courses in these subjects.

II.

That it is desirable that under the powers given by Section XVIII. of the Medical Act of 1858 the examination in chemistry, physics, and biology held by the several licensing bodies should from time to time be visited and reported upon.

III.

That in the first instance the examinations in chemistry, physics, and biology held by the Examining Board in England during the present year be visited by two persons appointed by the President on behalf of the Council, and that they be instructed to report on the scope, standard and sufficiency of these examinations.

It was also agreed, on the motion of Dr. MACALISTER, seconded by Dr. BRUCE, that—

The President and treasurers be requested to arrange for a suitable remuneration for the visitors, on the basis of the remuneration at present paid to the inspector of the examinations of the Apothecaries' Hall, Dublin.

Dr. NORMAN MOORE gave an undertaking that the Royal Colleges would furnish the utmost possible information to the Council in their inquiry.

Dr. LITTLE said that by the series of resolutions just adopted the Council had rather altered their bearing towards the English Royal Colleges, and he wished to ask Mr. Bryant and Dr. Norman Moore if they would endeavour to secure the authority of their respective Colleges to the cancellation of the intimation that the Royal Colleges would not require registration by the Medical Council in the Students' Register of candidates for their diplomas.

Dr. NORMAN MOORE could give no definite promise while the subject was still under discussion.

The PRESIDENT asked if the representatives of the two Royal Colleges would bring the matter before the authorities they respectively represented.

Mr. BRYANT and Dr. NORMAN MOORE replied in the affirmative.

The Executive Committee.

On a vote by ballot Dr. Payne was elected a member of the Executive Committee in the room of Dr. Glover, who retired from membership of the Council at the close of last year.

The Midwives Bill.

In answer to Mr. BROWN,

Sir JOHN BATTY TUKE, who had just arrived from the House of Commons, stated that the Midwives Bill had passed the second reading and had been referred to the Standing Committee on Law, which would probably take it into consideration within the next three weeks.

On the suggestion of the PRESIDENT it was resolved that the existing Committee on the Midwives Bill should be continued in order to watch proceedings on the Bill now before Parliament. Sir John Williams and Mr. Brown were added to the committee, which is now composed of the President, Sir Christopher Nixon, Mr. Horsley, Dr. MacAlister, Sir John Williams, and Mr. Brown.

Vote of Thanks and Congratulations.

Dr. NORMAN MOORE at the conclusion of business said: This is a special session and a most trying one, and we ought as a Council to pass a very hearty vote of thanks to the President for his extremely judicial and admirable conduct in the chair throughout it.

This proposal was received by the members with applause.

The PRESIDENT: I thank you, and let me say that the whole spirit and temper that has been displayed in this most important debate—one of the most important that has ever taken place in this Council and conducted in a thoroughly business-like way—has been most admirable, and I wish to congratulate the Council, because it is clear that we can do things in a thoroughly business-like way when we make up our minds to do so.

The Council then rose till the fourth Tuesday in May next.

Obituary.

LEVI COOPER LANE, LL.D., M.R.C.S.,

OF SAN FRANCISCO.

WE regret to learn by telegram that Dr. Cooper Lane died on Feb. 18th at San Francisco, of which city he was a leading citizen. Born and educated in America, Dr. Lane visited this country in 1875 and became a Member of the Royal College of Surgeons of England in that year. A nephew of Cooper, the well-known surgeon of San Francisco, Dr. Lane joined him in his practice, to which he succeeded on Cooper's death. Having wealth and no children he devoted himself to the foundation of the Cooper Medical College, in which he was professor of surgery, and later of the Lane Hospital, both of which institutions he lived to see thronged with students, male and female. Dr. Lane's

name has become well known to the medical profession in Great Britain in consequence of his having founded the Lane lectureship, an annual office the holder of which is required to deliver 10 lectures in the Cooper College, receiving the liberal salary of 2000 dollars. The first incumbent of the post in 1896 was Professor W. Macewen of Glasgow, and he was followed by Mr. Christopher Heath, Dr. Clifford Allbutt, Dr. Senn of Chicago, Sir Michael Foster, and Mr. Malcolm Morris. Professor Ball of Dublin is, we understand, to lecture this year. Dr. Lane contributed various papers to the American periodicals and took an active part in the discussions at the San Francisco Medical Society. He published in 1896 an elaborate work on the Surgery of the Head and Neck, a copy of which is in the library of the Royal College of Surgeons of England. Amiable and learned, and absolutely free from professional jealousy, Dr. Cooper Lane was highly respected and well beloved by both the public and the profession in California, and he exercised upon the latter an influence which was always for good. His death will be a great blow to the two institutions which he founded, but we have little doubt that they will rapidly recuperate under the distinguished staff of colleagues whom Dr. Lane had collected around him.

SEYMOUR GRAVES TOLLER, M.D., M.R.C.P. LOND.

WE regret to report the death of Dr. Seymour Graves Toller of Cairo on Feb. 19th, after an illness of about 10 days' duration, the details of which have not yet arrived. Dr. Toller was 35 years of age. He was educated at Malvern College where he obtained an exhibition. He entered the medical school at St. Thomas's Hospital as a first year's student in 1885, obtaining the entrance science scholarship. From that time his career showed an uninterrupted list of distinctions obtained not only in his own medical school but in the wider sphere of the London University. At St. Thomas's Hospital, amongst his other prizes he gained the Mead medal for practical medicine. In 1886 he was awarded the gold medal in materia medica at the Apothecaries' Hall. In the M.B. examination of London University he secured the University scholarship and gold medal in medicine and in obstetric medicine. In the M.D. examination also he won the gold medal. In 1896 he took the M.R.C.P. In the meantime—that is, from the year 1889—he had been actively engaged in various hospital appointments, culminating in that of resident assistant physician to St. Thomas's Hospital for the years 1894 to 1897. At the termination of his three years' office his dearest hopes were gratified by his election as assistant physician to the hospital staff. But the clouds were already lowering over his head. Almost immediately after his appointment he was compelled to resign it on account of the breakdown of his health. He had a severe attack of what at first appeared to be influenza, but in the course of his illness the sputum was found to be teeming with tubercle bacilli. In a few months' time his health was outwardly fully re-established, but it was clearly too dangerous for him to attempt to remain in this country; he accordingly applied for, and obtained, the posts of physician to the Kasr-el-Aini Hospital, Cairo, and professor of clinical medicine in the medical school. There, with the exception of summer visits to this country, the remaining years of his life were passed. He threw himself with all his energy into both the hospital and teaching work, and, in addition, had to satisfy the demands of a rapidly increasing practice. His health refused to bear the strain and a few months ago he resigned his hospital appointments.

Dr. Toller was known to many outside his profession as a brilliant musician. For many years he played the violin in the orchestra of the Royal Amateur Orchestral Society and also had the honour of a seat on the Council. At St. Thomas's Hospital for 10 years or more no function was complete without one of his violin solos. Dr. Toller was possessed of a very remarkable personal charm, the outcome of his affectionate, impulsive nature. Everything he did was done with an enthusiasm which seemed the keynote of his character. He was perhaps inclined to be oversensitive and at times took offence where no offence was meant, but the artistic temperament will exact its toll and none of Dr. Toller's friends loved him the less for these little ebullitions. He had contributed little to medical literature, but the exactions of hospital appointments rendered this impossible, and his untimely death has robbed the future of its fruit. The wonder is, not that he did so little, but that in his short span of life he achieved so much. Few professional careers can have started with greater promise than his and it is an additional pang to his friends to feel that for long before the final blow his energies were so hampered by ill-health as to make it impossible for him to justify fully the hopes raised by his youth.

THOMAS SMALLHORN, M.R.C.S. ENG., L.R.C.P., L.M. EDIN.

THE inhabitants of Eynsham, Oxford, have sustained a great loss by the death of Mr. Smallhorn who practised for 37 years at that place. Mr. Smallhorn was medical officer of health and public vaccinator for the Eynsham district of the Witney Union and was certifying surgeon under the Factories and Workshops Act. As a practitioner of medicine he was held in great esteem by members of his own profession and was much respected by his patients of all classes. The poor especially will not soon forget his many acts of kindness and benevolence. Mr. Smallhorn, who was in his sixty-fifth year, had never fully recovered from the after-effects of an attack of influenza of which he was a victim two years ago, and he died after a fortnight's illness on Feb. 9th. A widow, one son, and three daughters mourn their loss.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In February the following candidates passed in the subjects indicated:—

Surgery.—W. V. Braddon (Section I.), Cambridge and Manchester; T. S. Davies, St. George's Hospital; E. N. de V. Dawson (Section II.), St. Thomas's Hospital; J. C. S. Dunn, St. Bartholomew's Hospital; R. Gauld (Section II.), London Hospital; S. F. Hickman (Sections I. and II.), Royal Free Hospital; H. Jacques (Sections I. and II.), London Hospital; C. C. Morgan (Section II.), St. Bartholomew's Hospital; E. Osborne (Section I.), Birmingham; P. G. Sheppard (Sections I. and II.), Cambridge and Liverpool; and J. H. Williams, London Hospital.

Medicine.—J. E. Bolton (Section II.), Leeds; R. Gillett (Sections I. and II.), Royal Free Hospital; C. E. A. Huddart (Sections I. and II.), London Hospital; M. E. S. Scharlieb (Sections I. and II.), Royal Free Hospital; and C. Watson (Sections I. and II.), Dublin and Westminster Hospital.

Forensic Medicine.—D. Fletcher, St. Bartholomew's Hospital; M. E. S. Scharlieb, Royal Free Hospital; and C. Watson, Dublin and Westminster Hospital.

Midwifery.—W. C. P. Bremner, University of Toronto; I. Griffith, London Hospital; M. E. S. Scharlieb, Royal Free Hospital; and R. H. Terry, Guy's Hospital.

The qualifying diploma of the Society in Medicine, Surgery, and Midwifery was granted to the following candidates:—J. E. Bolton, E. N. de V. Dawson, D. Fletcher, R. Gillett, C. E. A. Huddart, P. G. Sheppard, and C. Watson.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—FELLOWSHIP EXAMINATION.—The following candidates have passed the examination for the Fellowship:—

F. J. C. Heffernan, Miss M. R. Kapadia, H. Pringle, and M. J. Russell.

The following have passed the primary part of the examination:—

F. J. S. Heaney, Miss C. McCrea, and R. S. Ryce.

FOREIGN UNIVERSITY INTELLIGENCE.—*Amsterdam:* Dr. Otto Lanz, Assistant to Professor Kocher of Berne, has been appointed Professor of Surgery.—*Brussels:* Dr. P. Van der Velde has been appointed Director of the Medical Clinic in the Hospital of St. Jean in succession to the late Dr. Destrée.—*Budapest:* Dr. Tiberius von Györy has been recognised as *privat-docent* of the History of Medicine. Dr. Ernst Emil Moravesik has been promoted to the Ordinary Professorship of Mental Diseases.—*Freiburg:* Dr. Hugo Sellheim, *privat-docent* of Midwifery and Gynæcology, has been promoted to an Extraordinary Professorship.—*Greifswald:* Dr. Otto Busse, *privat-docent* of Pathological Anatomy, and Dr. Rudolf Rosemann, *privat-docent* of Physiology, have been promoted to Professorships.—*Leipsic:* Dr. Döllken has been recognised as *privat-docent* of Medicine.—*Lemberg:* Dr. Julius Marischler has been recognised as *privat-docent* of Internal Medicine, and Dr. Adam Szulislawski as *privat-docent* of Ophthalmology.—*Vienna:* Dr. Karl Biehl has been recognised as *privat-docent* of Otology.

UNIVERSITY OF WALES.—It has been decided that the installation of the Prince of Wales as Chancellor of the University of Wales shall take place at Bangor on May 9th.

NOTIFICATION OF CHICKEN-POX.—Chicken-pox is now a notifiable disease at Paignton (Devon). The Northam (Devon) District Council and the Bath City Council have decided to add chicken-pox to the list of notifiable diseases.

SUPPLY OF VACCINE LYMPH.—At the meeting of the Plymouth Board of Guardians held on Feb. 19th the public vaccinator asked the board to supply him with some vaccine lymph for revaccination purposes. Some of the guardians opposed the application, but it was eventually agreed to by a majority of four votes.

NEW HOSPITAL FOR MONMOUTH. — Lord Llangattock presided on Feb. 15th at a special meeting of the subscribers to the new hospital at Monmouth. It is stated that the building will cost £5000, and the subscriptions received, including £2000 from the chairman, are still short of the required sum. It was decided to commence the building of the institution immediately.

PRESENTATION.—At the distribution of medallions and certificates in connexion with the Padstow (Cornwall) branch of the St. John Ambulance Association held on Feb. 15th, the members of the class presented Mr. R. Palk Griffin, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., with an easy chair with inscribed brass-plate, as a mark of appreciation of his services to them as honorary lecturer.

THE LATE DR. T. PEARSE.—Dr. Thomas Pearse died at his residence in Queen Anne-terrace, Plymouth, on Feb. 20th, after a short illness, from heart failure following bronchitis. Dr. Pearse was born at Launceston, Cornwall, in 1828, and graduated as M.D. in Edinburgh and M.B. in Aberdeen in 1849, taking the diploma of L.R.C.S. Edin. in the same year. Shortly afterwards he joined his father, the late Dr. W. Pearse, in Plymouth. During the outbreak of cholera at Plymouth in 1849 he had medical charge of the cases at Cawsand and at a later period he rendered valuable service during a small-pox epidemic. Dr. Pearse was the senior member of the Plymouth Medical Society. He was much esteemed in "the Three Towns," especially by the poor, to whom he was always kind and considerate. The deceased leaves three sons, the eldest of whom is in the dental profession while the other two are in the medical profession.

THE ROYAL INSTITUTION.—Musical and talking electric arcs formed the subject of the Friday evening discourse delivered at the Royal Institution on Feb. 21st by Mr. W. Duddell. He said that the vapour-column of an electric arc varied in size with variations produced in the current which gave rise to the arc and was sensitive to very small and very frequent variations. From this it resulted that when the current from an ordinary telephone transmitter was added to the current producing an arc the vapour-column of the latter underwent rapid changes in size and created aerial waves which reproduced the sounds spoken into the transmitter. The effects obtained when the light of an arc was thrown on a selenium cell were also shown. Any direct-current arc passing between solid hard carbon points could be made to give out a musical note merely by connecting a self-inductive circuit containing a condenser as a shunt round the arc. The self-inductive circuit was simply a coil of wire, and the condenser consisted of alternate sheets of paper and tinfoil. For the production of a musical arc it was necessary that the resistance should be low, which was probably the reason why the discovery was not made some years ago. The pitch of the note emitted was regulated by the frequency of the alternating current in the shunt circuit. This frequency could be altered in several ways, the best of which was either (1) to increase or diminish the number of turns in the coil of wire; or (2) to vary the capacity of the condenser. The lowest note which he had been able to produce in this way was D below middle C on the piano. Mr. Duddell showed a small keyboard connected with arcs giving two complete octaves, and his sister then played on it the melody of a verse of "Comin' thro' the Rye." The tone was nasal in character, like that of a musette and the music as played was interspersed with the loud crackling and sputtering of electric discharges.

Parliamentary Intelligence.

HOUSE OF COMMONS

THURSDAY, FEB. 20TH.

War Medal for Nurses.

MR. CLAUDE LOWTHER asked the Secretary of State for War whether women who were employed in the Army Nursing service in South Africa by military authorities, and whose work had been commended by the principal medical officer on the spot, were allowed to receive the medal if they did not hold a three years' hospital certificate.—MR. BRODRICK replied: The South African War medal is given to all nurses and nursing sisters who served in South Africa from Oct. 11th, 1899, but the term "nurses and nursing sisters" is held to apply only to those specially appointed as such, and to the staff of any local charitable institutions in South Africa duly recognised by the military authorities there and utilised by them for the reception and care of the sick and wounded.

The Inquiry into Workhouse Nursing.

MR. KENDAL O'BRIEN asked the President of the Local Government Board whether the committee appointed by the Local Government Board to inquire into the reasons of the difficulty in obtaining nurses for infirmaries or sick wards of workhouses under the control of the master and matron had commenced its inquiry; and if so, what evidence did it intend to take; where was the inquiry being, or to be, held; and what opportunities would be given to medical officers, superintendent nurses, and others interested to give evidence.—MR LONG, in reply, said: The committee have commenced their inquiry and are sitting twice a week at the offices of the Local Government Board. It rests with the committee to determine what evidence they will take, but arrangements have already been made for hearing the evidence of certain Poor-law officers and guardians of representatives of various Poor-law and nursing associations, and of other persons interested. It is open to any person desirous of being heard by the committee to communicate with the secretary on the subject. Such person should state his qualifications and the nature of the evidence he would be prepared to give.

FRIDAY, FEB. 21ST.

Public Health Appointments in Ireland.

DR. E. C. THOMPSON asked the Chief Secretary to the Lord Lieutenant of Ireland if he would give effect to his promise, made last session of Parliament on behalf of the Irish Local Government Board, that when vacancies occurred amongst consulting sanitary officers superintendent officers of health would be appointed.—MR. WYNDHAM said in reply: The statement made by me last session was that the provision in the Board's Sanitary Order of May, 1900, with respect to the appointment of a medical superintendent officer of health had not been acted upon in any case, and that the opportunity to act upon it would only arise as vacancies occur in the office of consulting sanitary officer. The Board is prepared in all cases where such vacancies may arise to sanction the appointment of medical superintendent officers of health.

The Small-pox Epidemic.

MR. CORBIE GRANT asked the President of the Local Government Board whether he was aware that a resident of Rugby while ill with small-pox in one of the hospital ships under the control of the Metropolitan Asylums Board was visited on Feb. 1st by his mother and sister; that he died the next day; and that the mother had since been attacked with small-pox at Rugby and was now in the small-pox hospital at Rugby; and whether any, and, if so, what, precautions were taken by the Metropolitan Asylums Board to prevent the spread of infection by visitors to patients.—MR. LONG replied: I am aware of the facts referred to by the hon. Member. As regards the concluding part of the question, I am informed that the following are the chief precautions taken by direction of the managers of the Metropolitan Asylums District to minimise the risk of infection being spread by persons visiting patients at their small-pox hospitals. The visitors on their arrival are invited to partake of a light meal in order that they may be physically better able to resist infection; they are then seen by a medical officer who inquires into their condition as to vaccination, and, if necessary, urges upon them the advisability of immediate revaccination. Before entering the wards the visitors are dressed in overalls and caps, and whilst in the wards they are on no account allowed to touch, or in any way to handle, their relatives or the beds on which patients are lying. After a brief stay in the wards (some minutes only) the visitors are taken to a dressing-room, where the overalls and caps are removed and they themselves undergo a thorough washing of the hands and face before leaving the hospital premises. The fact of every visit is communicated by letter to the medical officer of health in whose district the visitor resides, whether that visitor has been recently revaccinated or otherwise. In the case referred to in the question the two visitors refused to be revaccinated at the time of their visit to the ships.

MR. CORBIE GRANT asked whether in this session the Government would bring in a measure enabling the local authority to enforce isolation upon persons known to have been in contact with others suffering from small-pox and to provide reasonable compensation to such persons.—MR. LONG said: The answer to this question must be in the negative. I may state, however, that I propose to issue a circular in the course of a day or two as regards the isolation of persons brought into contact with small-pox, based on the views held by the medical officers of the department.

Mr. CORBIE GRANT asked whether it would be possible to make some provision for the loss of wages incurred by people who submitted to isolation.—Mr. LONG said that if the hon. Member meant provision out of the rates he did not think it would be possible. He did not think it would be at all desirable that district authorities, whether boards of guardians or municipal councils, should pay wages out of the rates. The detention need only be for a very short time. At present the local authorities could provide for the maintenance of people isolated but to go further and pay their wages would be a very serious step.—Mr. CORBIE GRANT pointed out that whilst maintenance had been undertaken by some local authorities, others had refused to undertake it under the impression that they had no power to assume such a liability.—Mr. LONG said he thought that in cases where local authorities had hesitated to act it had been from a misapprehension which he believed had now been removed.

Mr. BARTLEY asked whether there was any power to prevent persons visiting small-pox patients.—Mr. LONG replied that the managers of the Metropolitan Asylums Board had absolute powers. He was informed that they only sanctioned visits to patients when it was believed that the patients were dying and it was found to be extremely difficult to refuse admission in such circumstances.

Mr. CORBIE GRANT asked the Secretary of State for War whether his attention had been called to a notice issued at the Brennan Torpedo Factory, Chatham, stating that employés would be required to notify to the office whether and within what dates they and their families had been vaccinated, and that it might be necessary to take steps to prevent the possibility of the disease being introduced into the factory through persons who had not taken the precaution of vaccination or revaccination. Would he explain under what authority revaccination was required; how recent a revaccination was required; and whether those who refused to notify to the office would be dismissed.—Mr. BRODRICK replied: The notice was issued in order to obtain information for guidance in the event of the epidemic becoming so serious in the neighbourhood of the factory as to require special consideration. It referred to the desirability of revaccination but does not enforce it. Non-compliance with the notice will not involve dismissal, but I must reserve complete freedom to the War Office to use any regulation which may be thought necessary to prevent small-pox being introduced into the factories.

TUESDAY, FEB. 25TH.

The Legal Position of the Vaccination Officer.

Sir JOHN ROLLESTON asked the President of the Local Government Board whether he had decided to apply to the Court of King's Bench for leave to intervene in the case of Moore *v.* Keyte in that court which raised the question of the control of boards of guardians over their servant the vaccination officer, and should leave be granted to instruct the law officers of the Crown to argue for the justices in support of the opinion of the Local Government Board; whether the assent of the Treasury was necessary and had been obtained for this expenditure; and whether, in order to secure the complete argument of the case in the interests of all boards of guardians, he was willing to recommend to the Treasury that pecuniary assistance for retaining the necessary counsel be afforded to the appellant Moore, a working man, or whether the Local Government Board would sanction the outlay necessary for that purpose by the board or boards of guardians interested in the question.—Mr. GRANT LAWSON, in the absence of Mr. Long, replied: The answer to the first point is in the affirmative and to the second in the negative. With regard to the last point I understand that the appellant in the case referred to is supported by the local anti-vaccination society. I could not undertake to adopt the course suggested by my hon. friend.

The Royal Army Medical Corps.

Dr. E. C. THOMPSON asked the Secretary of State for India if he was aware that the Government of India refused to allow officers of the Royal Army Medical Corps the same pay and allowances as were granted to the officers of other branches of the army of the same rank; whether this refusal was delaying the issue of the new Royal Warrant for reform of the Royal Army Medical Department; and whether he would use his influence with the Indian Government to remedy the grievance which in the past had injured the interests of the Royal Army Medical Corps.—Lord GEORGE HAMILTON replied: No proposal has been refused by the Government of India, or made to them, to assimilate the pay and allowances of the Royal Army Medical Corps to those of any other branch of the army. The pay of officers of the corps serving in India was increased somewhat in 1897 and compares favourably with that of most other branches of the service. Various questions relating to the organisation of the corps are engaging the attention of the Government of India and I hope shortly to receive and consider their recommendations on the subject.

WEDNESDAY, FEB. 26TH.

Midwives Bill: Second Reading Passed.

The House devoted five hours of this sitting to a second reading debate on the Midwives Bill. Many of the speeches were extremely interesting, and next week we propose to publish a special report of the entire debate. In the meantime it may be said that Lord CECIL MANNERS moved the second reading of the Bill and Mr. TATTON EGERTON seconded the motion. Thereupon Sir JOHN BATTY TUKE moved as an amendment the rejection of the Bill, laying special emphasis on the omission of any provision for a penalty for women who practise without being certified. In the subsequent proceedings it came out very clearly that the sense of the House was favourable to the Bill in its main features. The HOME SECRETARY (Mr. Ritchie) spoke warmly in its support, while, of course, reserving the right to himself to scrutinise carefully its details on another occasion. Bowing to the sense of the House Sir JOHN BATTY TUKE did not claim a division on his amendment, and the second reading was carried without a division and the Bill was referred to the Grand Committee on Law. This reference to a standing committee obviates the stage of committee of the whole House. If the Bill comes back from the committee without amendment it proceeds to third reading, but if amendments are made then it has to pass through a report stage. As the Grand Committee on Law has little if any other work in hand, it will probably take up the consideration of the Bill on a comparatively early day.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BALDWIN, G. R., F.R.C.S. Eng., has been appointed Honorary Surgeon to Outpatients, St. Vincent's Hospital, Melbourne, Victoria.

BARRACLOUGH, A. M., M.B., B.S. Camb., has been appointed Certifying Surgeon under the Factory Acts for the Chapeltown District of the West Riding of York.

BEVERS, EDMUND C., M.A., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P., has been appointed House Physician to the Radcliffe Infirmary, Oxford.

CAREY, C. DE L., B.A., B.C. Cantab, has been appointed Second House Surgeon to the East Suffolk Hospital, Ipswich.

COLLINS, J. C., M.B., B.Ch., B.A.O. T.C.D., has been appointed Medical Superintendent of the Provincial Hospital, Auckland, New Zealand.

COLLUM, R. W., L.R.C.P. Lond., M.R.C.S. Eng., has been appointed Anæsthetist to the Charing Cross Hospital.

COOPER, EMOR R., M.B., Ch. B. Vict., has been appointed House Surgeon to the Devonshire Hospital, Buxton.

DAVENPORT, HAROLD DEVEREUX, L.R.C.S. Irel., has been appointed a Public Vaccinator for the District of Christchurch, New Zealand.

DOYLE, ANDREW ALOYSIUS, F.R.C.S. Irel., has been appointed Medical Officer at Roma, Queensland, and Visiting Surgeon to the Prison at that place.

EVERED, A. C., L.R.C.P. & S. Edin., has been appointed Quarantine Officer at Albany, West Australia.

HARVEY, WILLIAM, L.R.C.P. & S. Edin., has been appointed District Medical Officer for West Kimberley, Quarantine Officer for the Port of Derby, and Public Vaccinator for the Urban and Suburban Districts of Derby and Rural District of West Kimberley, West Australia.

JEFFERISS, FREDERICK B., M.R.C.S., L.R.C.P., has been appointed Assistant Physician to St. Bartholomew's Hospital, Rochester.

O'CONNOR, ARTHUR CHARLES, M.B., M. Ch. Syd., has been appointed Government Medical Officer and Vaccinator at Bulli and Coalcliff, New South Wales.

PARDEY, JAMES M., M.B., Ch.B. Melb., has been appointed Honorary Medical Officer to the Launceston General Hospital, Tasmania.

RAYNER, DAVID CHARLES, F.R.C.S. Eng., L.R.C.P. Lond., has been appointed Lecturer on Practical Midwifery at University College, Bristol, vice Dr. W. C. Swayne, resigned.

SEABROOK, THOMAS E. FRASER, M.D. St. And., has been appointed Acting Medical Officer at Palmerston, Acting District Registrar of Births, Deaths, and Marriages for the District of Palmerston, Acting Health Officer at Port Darwin, and Acting Protector of Aborigines for the Northern Territory, South Australia, during the absence on leave of Dr. Frederick Goldsmith.

SHARP, ELLEN M., M.B. Lond., has been appointed Senior House Surgeon to the Victoria Children's Hospital, Hull.

SHORTT, W., L.R.C.P. and R.C.S. Edin., L.F.P.S. Glasg., has been appointed Coroner for the police district of Corowa, New South Wales.

SWAYNE, WALTER CARLESS, M.D. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed Professor of Midwifery at University College, Bristol, vice Dr. Aust Lawrence, deceased.

TOD, HUNTER F., M.A., M.B., B.C. Cantab, F.R.C.S., has been appointed Surgeon to the Throat and Ear Department of the Paddington Green Children's Hospital.

VAN PRAAGH, HAROLD, M.D. Lond., has been appointed Casualty Physician at St. Mary's Hospital.

WHITE, E. A., M.D. R.U.I., has been appointed Medical Officer to the Isle of Thanet Joint Hospital Board.

WILLMOTT, ROBERT, F.R.C.S. Eng., M.R.C.S. Edin., has been appointed Official Visitor of the Hospital for the Insane, New Norfolk, Tasmania, for the year 1902.

ZIMPEL, ADOLPH, M.B., M.S. Aberd., has been appointed Junior Medical Officer, Department of Lunacy, New South Wales.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BELGRAVE HOSPITAL FOR CHILDREN, 77 and 79, Gloucester-street, S.W.—House Surgeon for six months. Board and lodging provided and a gratuity of £5.

BIRKENHEAD BOROUGH HOSPITAL.—Junior Male House Surgeon. Salary £80 per annum, with board and washing.

BIRMINGHAM TAME AND REA DISTRICT DRAINAGE BOARD.—Bacteriologist. Salary £160 per annum.

BLACKBURN COUNTY BOROUGH.—Medical Officer of Health. Salary £550 per annum.

BRADFORD POOR-LAW UNION.—First Resident Assistant Medical Officer, unmarried. Salary £125, with rations, apartments, and washing.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BRIGHTON, HOVE, AND SUSSEX THROAT AND EAR HOSPITAL, Church-street, Brighton.—House Surgeon for six months, renewable. Salary at rate of £75 per annum.

BRISTOL GENERAL HOSPITAL.—Assistant House Physician. Salary £70 per annum, with board and residence. Also Assistant House Surgeon.

CENTRAL LONDON SICK ASYLUM DISTRICT.—Assistant Medical Officer. Asylum at Cleveland-street or Hendon as may be required. Salary £120 per annum, with board and residence.

CUMBERLAND INFIRMARY, Carlisle.—Resident Medical Officer as House Physician for first six months and as House Surgeon for next six months. Salary at rate of £80 and £100 per annum respectively, with board, lodging, and washing.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—Assistant House Surgeon. Salary £70 per annum, with apartments, board, lodging, and laundry.

DORSET COUNTY HOSPITAL, Dorchester.—House Surgeon. Salary £100, with board and residence.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £150, rising to £180, with board, apartments, laundry, and attendance.

EAST SUSSEX COUNTY ASYLUM, Hayward's Heath.—Second Assistant Medical Officer and Pathologist, unmarried. Salary £175 per annum, with board, lodging, washing, and attendance.

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn-circus, E.C.—Honorary Physician.

HOSPITAL OF ST. FRANCIS, New Kent-road, S.E.—Physician.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon (unmarried). Salary £75 per annum, with board, lodging, &c.

KING'S COLLEGE, London.—Sambrook Medical Registrarship (open to King's College Students).

KING'S NORTON AND NORTHFIELD URBAN DISTRICT COUNCIL INFECTIOUS DISEASES HOSPITAL, West Heath.—Assistant Medical Officer. Salary £120 per annum, with rations and rooms, together with coal, gas, &c.

LONDON COUNTY ASYLUM, Banstead, Sutton, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

LONDON LOCK HOSPITAL, Harrow-road, W.—Anæsthetist to the Female Hospital.

MANCHESTER COUNTY ASYLUM, Prestwich.—Junior Assistant Medical Officer, unmarried. Salary £150, increasing to £250, with board, apartments, and washing.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer, unmarried, for six months, eligible for election as Senior. Salary at rate of £80 a year when Junior and £100 a year as Senior, with board and lodging.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £80 per annum, with apartments and board.

MANCHESTER ROYAL INFIRMARY AND DISPENSARY.—Honorary Assistant Physician.

METROPOLITAN ASYLUMS BOARD ASYLUM, Darenth, Dartford, Kent.—Male Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—House Physician and House Surgeon, with salary at rate of £40 a year each; Assistant House Physician and Assistant House Surgeon, with salary at rate of £20 a year each. All tenable for six months.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury.—Senior and Junior House Physicians. Salary of former £100 per annum, and of latter £50 per annum. In each case with board and apartments.

NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland-street, W.—Honorary Assistant Anæsthetist.

NOTTINGHAM CHILDREN'S HOSPITAL, Forest House.—House Surgeon, unmarried. Salary £100, with board and residence.

PETERBOROUGH INFIRMARY AND DISPENSARY.—House Surgeon. Salary £80, rising to £100 per annum, with board, residence, and washing.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—Pathologist. Salary at rate of £100 per annum.

ROYAL NATIONAL HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Ventnor.—Assistant Resident Medical Officer, unmarried. Salary £100 per annum, with board and lodging.

ROYAL SEA BATHING HOSPITAL.—Resident Surgeon as Junior for six months and as Senior for a like period. Salary at rate of £80 and £120 respectively, with board and residence.

SALFORD ROYAL HOSPITAL.—House Surgeon. Salary £100 per annum. House Physician. Salary £80 per annum. And Junior House Surgeon. Salary £70 per annum, with board and residence in each case.

SHEFFIELD ROYAL HOSPITAL.—Junior Assistant House Surgeon, unmarried. Salary £50 per annum, with board and lodging.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM, City-road, London, E.C.—House Surgeon. Salary £80 per annum, with board and lodging.

TOTTENHAM HOSPITAL, N.—Honorary Dermatologist. Also two Honorary Anæsthetists.

WANTAGE UNION.—Medical Officer and Public Vaccinator. Salary as Medical Officer £75 per annum. Vaccination and extra medical fees average about £30 per annum.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician and House Surgeon for six months. Board and lodging provided.

Births, Marriages, and Deaths.

BIRTHS.

CREE.—On Feb. 22nd, at Park Villa, Cheltenham, the wife of Major Gerald Cree, R.A.M.C., of a son.

FRY.—On Feb. 17th, at Wateringbury, Kent, the wife of Walter Ernest Fry, M.R.C.S., L.R.C.P. Lond., of a son.

DEATHS.

COOKE.—On Feb. 20th, at Aldridge, Staffordshire, aged 67, William Harry Cooke, M.D. Aberd., J.P.

STRAHAN.—On Feb. 21st, suddenly, S. A. K. Strahan, M.D.Q.U.I., of the Middle Temple, Barrister-at-law, aged 48 years.

TOLLER.—On Feb. 19th, at his residence, Cairo, Egypt, Seymour Graves Toller, M.D. Lond., aged 35 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

PUBLIC VACCINATORS AND GUARDIANS OF THE POOR.

THE public vaccinators of the Holbeach, Lincolnshire, District are at present paid the following fees for vaccination and revaccination: cases at the surgery, 2*s.* 6*d.*; cases within two miles of the surgery, 5*s.*; and cases over two miles from the surgery, 7*s.* 6*d.* It will be noticed that 5*s.* and 2*s.* 6*d.* are the minima allowed by the Local Government Board. Like Mrs. John Gilpin, the guardians of the poor at Holbeach have a frugal mind, at least as regards payments to other people, and at a meeting held on Feb. 20th the matter came up for discussion. From the report of the meeting in the *Spalding Guardian* of Feb. 22nd we learn that Mr. Cragg expressed the opinion that "it would not be very hard on the doctors if we brought it down to the minimum fee in all cases." Mr. Brothwell thereupon said, "I think the same myself." A letter was read from Mr. A. B. Vise, one of the public vaccinators, in which he stated that during the three years 1899, 1900, and 1901 he had been paid by the guardians for 20 successful vaccinations. Of this number only 24 were distant under two miles from the town. Of the others 121 were distant between two and three miles, 22 between three and four miles, 21 between four and five miles, 11 between five and six miles, 12 between six and seven miles, and four between seven and eight miles. Besides these cases he had had to make 121 unpaid journeys, in only 12 of which had he to go less than two miles. The clerk asked Mr. Brothwell if he would be prepared to undertake the work at the minimum fee. Mr. Brothwell, however, did not give a definite answer, but remarked that he had to do a good deal more work for a good deal less money. We presume that Mr. Brothwell is a medical man, although we cannot find his name in the Medical Register for 1901 or in the Medical Directory for 1902 under the section headed Provincial. After some remarks from Mr. R. Merry, J.P., who charged the public vaccinators with arranging matters so that they got the higher fee, Mr. Cragg proposed and Mr. Eastland seconded a motion that the existing contracts should be rescinded at 28 days' notice, and that in future no higher fee than 5*s.* should be paid. This was carried by a large majority, but finally the chairman ruled that a fortnight's notice of such a motion was necessary. We refrain from comment until it shall be apparent what course the board of guardians is going to take.

THE R. B. ANDERSON FUND.

DR. ALFRED COX incloses a final list of contributions to the above fund and adds: "If there are any of your readers who, even at the eleventh hour, would like to do something to help to redeem the credit of the profession in this matter I would refer them to the treasurer of the fund, the Manager, Union Bank of London, Chancery-lane, London, where subscriptions could be received up to Monday."

	£	*s.*	*d.*
Dr. Prosser James ...	2	2	0
Dr. J. Brassey Brierley	1	1	0
Mr. F. A. Rumphry ...	1	1	0
Mr. J. Rand	1	1	0
Dr. J. B. Siddall	1	0	0
Dr. J. A. Stewart	0	10	6
Mr. Thomas Wilson ...	0	10	6
Mr. J. Whyte	0	10	0
H. C. M. (second donation)	0	5	0
K.	0	5	0
Mr. F. C. Wood	0	3	6

	£	*s.*	*d.*
Per the Editor of the *General Practitioner*:—			
Dr. G. Danford Thomas	2	2	0
Dr. R. B. M.	0	10	6
F. E. V.	0	5	0
Collected by Dr. C. Abbott at a meeting of the Birmingham and District General Practitioners' Union	5	0	0
Collected by Dr. J. Thomarson	11	0	0

UNSEEMLY NOTICES.

IN the *Peterhead Sentinel* of Feb. 22nd appears a paragraph headed "Dr. Anderson's Successor." It gives a variety of statements about the "successor" who, we observe amongst other matters, "has travelled extensively in Egypt, Turkey, and Russia." We can scarcely imagine that the "successor," whose name for the present we withhold, has sanctioned the insertion of this paragraph, but he owes it to his profession to publish a disclaimer.

THE DISCOVERER OF *LILIUM HENRYI*.

IN the March number of the *Girl's Own Paper* Eleonore d'Esterre-Keeling writes a brief note accompanied with a vignette portrait of Mr. Augustin Henry, the discoverer of *Lilium Henryi*. Though a Licentiate of the Royal College of Physicians of Edinburgh he is better known among botanists than he is among medical men. He was at one time a medical officer in the Chinese Maritime Customs and he is still connected with that service, though not in a medical capacity. Even had Mr. Henry not collected and sorted some 160,000 Chinese plants, as the writer of the note states, he will always be famous as the discoverer of that handsome lily, *Lilium Henryi*. By the way, is this "the tallest lily that grows," as the note states? For instance, is not *Lilium giganteum* taller? The genus lilium has always found admirers in spite of fashion which at one time kneels at the shrine of the tulip and at

another before the altar of the orchid, and it may be interesting to recall the fact that even before the days of Gerard the red lily of Constantinople, as this author calls *Lilium Chalcedonicum*, was grown in our gardens. Within the past 15 years the interest taken in these plants has enormously increased, and we believe that we are not far wrong in stating that from Bermuda alone some 2,000,000 bulbs are annually exported, while from Japan 5,000,000 is not an exaggerated estimate. All who admire the lily must be grateful to Mr. Henry for having discovered the lily which bears his name.

A NEW VACCINATOR.

To the Editors of THE LANCET.

SIRS,—Will you kindly favour me with sufficient of your valuable space to mention that about three years ago Messrs. Down Brothers made for me an aseptic vaccinator which, acting on the same principle as the Cooper Rose, can be easily and effectually sterilised by holding in the flame of a spirit lamp, and which appears to me to be the only satisfactory way of doing so? Mr. Palmer's invention still retains the disadvantage of an interior of a cylinder to keep clean, and this is not easily done.

I am, Sirs, yours faithfully,

G. G. GIDLEY.

Cullompton, Devon, Feb. 24th, 1902.

WANTED—AN ANNUITY OFFICE.

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to the letter appearing in THE LANCET of Feb. 15th, p. 487, under the heading "Wanted—an Annuity Office," and in answer to your correspondent's inquiry I have pleasure in saying that several insurance companies—this association among the number—are prepared to give weight to medical evidence of health in quoting terms to persons desiring to purchase annuities.

I am, Sirs, yours faithfully,

ALBERT G. SCOTT,
General Manager of the English and Scottish Law Life Assurance Association.

12, Waterloo-place, London, Feb. 17th, 1902.

HIS MAJESTY'S ILLNESS IN 1871.

UNDER the title of "The Nation's Wave of Suspense in 1871," Messrs. Houlston and Sons have published, at the price of 6*d.*, a chart showing the course of the critical illness of H.R.H. Albert Edward Prince of Wales at Sandringham in November and December, 1871. The graphic curve, illustrating the decline of the Royal patient's health through various stages to a condition when hope was almost abandoned and its gradual rise to a state of convalescence, is placed between two parallel columns of letter-press giving the bulletins issued by Sir William Jenner, Sir William Gull, Dr. Lowe, and the other physicians in attendance. The "memento," which is published on thick paper, gives some contemporary and connected events, and has scriptural texts in the borders and quaint corner-pieces.

THE SAVING OF LIFE AND LIMB BY THE ADOPTION OF AUTOMATIC COUPLERS.

STATISTICS to hand from America afford a powerful reason why automatic couplers should be adopted on all the railways of the world. The saving of life thereby has been enormous. In 1898 it was reported by an American commission that "in 1897 there were 219 less men killed and 4904 less men injured in coupling and uncoupling cars than in 1893 (the year the Act was passed) the number of men killed being reduced by one half and the number injured by one half." During 1899–1900, when the Act was rigidly enforced, the report issued in June, 1901, showed the number of men killed in coupling accidents to be less by 35 per cent. than in the preceding year, and the number injured less by about 52 per cent., and these results were in spite of more powerful locomotives and heavier loads. Surely in the light of such eloquent facts as these it is nothing short of a scandal that life should be sacrificed any longer because many railways refuse to adopt automatic couplers.

TRACTATUS DE LAPIDIBUS.

To the Editors of THE LANCET.

SIRS,—There has lately come into my possession a fragment of an old Latin book on medicine. The fragment consists of chapters 25–140 and it is headed on each page "Tractatus de Lapidibus." So far as I can make out each chapter describes a certain stone with the aid of a primitive illustration and then follow several paragraphs headed "Operationes" describing the action and uses of the various stones. Any information which your readers can supply me with, as regards date of publication, author's name, or value; I should esteem a favour.

I am, Sirs, yours faithfully,

OSCAR B. TRUMPER, M.B. Vict.,

Searle Lodge, Market Rasen, Feb. 23rd, 1902.

Scalpel.—The Pharmaceutical Society of Great Britain and the Society of Apothecaries of London hold examinations qualifying candidates to dispense medicines. Our correspondent must state the exact circumstances under which he requires to dispense medicines before his questions can be answered fully.

Sufferer can obtain full information from his medical attendant. He may also be relieved to hear that the complaint from which he suffers is probably of no consequence.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (3rd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.) St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (4th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (5th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (6th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (7th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (8th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.)

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (3rd).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Mr. A. Pearce Gould: Lettsomian Lectures on Certain Diseases of the Blood-vessels. Lecture II. Obliterative Arteritis:—Nature of the Disease, Symptoms, Treatment, Liability to Recurrence.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM (11, Chandos-street, Cavendish-square, W.).—4.30 P.M. Cases and Specimens will be shown by Mr. H. Jones, Dr. A. Bronner, Mr. C. Baber, Dr. H. Tilley, Mr. A. Cheatle, and Dr. J. Horne.

TUESDAY (4th).—PATHOLOGICAL SOCIETY OF LONDON.—Prof. V. Harley: A Case of Low Nitrogenous Metabolism.—Dr. Hédin: Splenic Enzymes.—Dr. R. Hutchison: Chyliform Ascites.—Dr. Schölberg: An Unknown Pigment of Urine.—Dr. Thiele: A Brown Pigment in Urine.

WEDNESDAY (5th).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by Dr. C. Berkeley, Dr. V. Bonney, The President (Dr. Horrocks), and Dr. Boxall. Paper:—Dr. R. G. McKerron: Suppression of Urine after Labour.

THURSDAY (6th).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Clinical Cases will be shown by Dr. Cautley and others. Paper:—Mr. P. L. Daniel: Some Rare Cases of Sarcoma of the Thyroid.

RÖNTGEN SOCIETY (20, Hanover-square, W.).—8.30 P.M. Exhibition Evening. Paper:—Dr. B. Blacker: Localisation, with demonstration of a Simple Direct Reading Apparatus.

NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital).—4 P.M. Demonstration of Clinical Cases.

FRIDAY (7th).—WEST KENT MEDICO-CHIRURGICAL SOCIETY (Royal Kent Dispensary, Greenwich-road, S.E.).—8.45 P.M. Clinical Cases and Pathological Specimens will be shown or Notes read by Dr. Toogood, Mr. C. Williams, the President, Dr. L. Williams, Dr. J. Donelan, Dr. Herschell, Mr. R. V. Donnellan, Dr. Peacock, Dr. Henry, and Mr. Cæsar. Living Cases will be taken first.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M. Clinical Evening. Followed by a General Meeting to consider the Addition to Rules.

SATURDAY (8th).—MEDICAL SOCIETY OF LONDON (Whitehall Rooms, Hotel Metropole).—7.30 P.M. 129th Anniversary Dinner. Dr. W. H. Allchin (President) in the chair.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (3rd).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: The Blood-vessels of Mammals in Relation to those of Man.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. R. Crocker: Clinique. (Skin.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Therapeutics.

ROYAL INSTITUTION OF GREAT BRITAIN.—5 P.M. General Monthly Meeting.

TUESDAY (4th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. F. Still: Some Abnormal Psychical Conditions in Children. (Goulstonian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. E. Squire: Clinique. (Medical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Dunn: Some Common Diseases of the Eye.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury).—3.30 P.M. Dr. Batten: Myopathies.

ROYAL INSTITUTION OF GREAT BRITAIN.—3 P.M. Mr. W. N. Shaw: The Temperature of the Atmosphere, its Changes and their Causes.

WEDNESDAY (5th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: The Blood-vessels of Mammals in Relation to those of Man.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. H. Marsh: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Therapeutics.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—8 P.M. Dr. Abercrombie: Ear Diseases without Discharge.

THURSDAY (6th).—ROYAL COLLEGE OF PHYSICIANS OF LONDON.—5 P.M. Dr. G. F. Still: Some Abnormal Psychical Conditions in Children. (Goulstonian Lecture.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Hutchinson, jun.: Clinique. (Surgical.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Davis: Medical Anatomy and Physical Diagnosis.

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Dr. F. E. Batten: Lesions of the Cerebellum.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. Galloway: Dermatological Demonstration. (Post-Graduate Course.)

FRIDAY (7th).—ROYAL COLLEGE OF SURGEONS OF ENGLAND.—5 P.M. Prof. F. G. Parsons: The Blood-vessels of Mammals in Relation to those of Man.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. Horne: Clinique. (Throat.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Bali: Diseases of the Tonsils.

ROYAL INSTITUTION OF GREAT BRITAIN.—9 P.M. Prof. H. Becquerel: Radio-Active Bodies (in French).

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. II. of 1901, which was completed with the issue of Dec. 28th, and the Title-page to the Volume, were given in THE LANCET of Jan 4th.

VOLUMES AND CASES.

VOLUMES for the second half of the year 1901 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

Cases for binding the half-year's numbers are also ready. Cloth, gilt lettered, price 2*s.*, by post 2*s.* 3*d.*

To be obtained on application to the Manager, accompanied by remittance.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments).

THE LANCET Office, Feb. 27th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 a.m.
Feb. 21	30·06	S.E.	...	60	49	35	35	36	Foggy
,, 22	29·96	S.	..	71	50	36	39	40	Overcast
,, 23	29·77	S.W.	0·19	57	50	40	45	45	Raining
,, 24	29·62	S.E.	0·03	47	47	44	45	46	Raining
,, 25	29·61	S.E.	0·28	65	48	44	45	45	Raining
,, 26	29·58	S.E.	0·10	70	47	38	39	40	Overcast
,, 27	29·25	S.W.	0·15	76	52	40	45	46	Cloudy

During the week marked copies of the following newspapers have been received:—*Glasgow Evening News, Glasgow Herald, Southport Guardian, East London Observer, Bulawayo Journal, St. James's Gazette, Lancaster Post, Suffolk Chronicle, Standard, Manchester Courier, Newcastle Chronicle, Echo, Manchester Despatch, Yorkshire Post, Belfast Newsletter, Nottingham Express, Cardiff Echo, Newcastle Leader, Darlington Echo, Hartlepool Mail, Star, Ipswich Times, Yorks Observer, Aberdeen Journal, Aberdeen Free Press (Weekly), Surrey Advertiser, Times of India, Morley Observer, City Press, South Wales Post, South Wales Daily News, Plymouth News, Westminster Gazette, Irish Times, Banbury Guardian, Freeman's Journal (Dublin), Essex County Chronicle, &c.*

Communications, Letters, &c., have been received from—

A.—Monsieur J. Astier, Asnières; Dr. David W. Aitken, Lond.; Dr. F. P. Atkinson, Bexhill-on-Sea; Mr. Amsler, Dresselfi, Birrenlauf; Dr. M. D. Adame, Sevilla, Spain; Messrs. Allen and Hanburys, Lond.; Rev. W. H. Addison; Mr. F. G. Aflalo, Lond.; Messrs. Ayrton and Saunders, Liverpool.

B.—Dr. J. Burnet, Edinburgh; Mr. P. J. R. Bucknill, Blackburn; Dr. H. Poole Berry, Grantham; *British Medical Journal*, Editor of; British Medical Benevolent Fund, Hon. Secretary of; Messrs. Baillière, Tindall and Cox, Lond.; Mr. T. A. Brocklebank, Lond.; Mr. A. A. Bradburne, Aldershot; Dr. J. P. zum Busch, Lond.; Mr. T. H. Brocklehurst, Weymouth; Dr. F. R. Batten, Lond.; Mr. E. Baker, Birmingham; Dr. L. H. Bryson, Derby; Messrs. Battle and Co., Neuilly-sur-Seine, France; Dr. Fletcher Beach, Kingston Hill; Birmingham, &c., Drainage Board, Engineer of; Mr. J. Paul Bush, C.M.G., Clifton, Bristol; Bridgwater Infirmary, Hon. Secretary of; Mr. C. L. Bedford, Birmingham; Charles Birchall, Ltd., Liverpool; Messrs. C. Barker and Sons, Lond.; Messrs. W. J. Bambridge and Co., Lond.

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E.—Messrs. Evans, Loscher, and Webb, Lond.; Electrical Ozone and Light Treatment, Lond., Secretary of; Mr. W. McAdam Eccles, Lond.; Messrs. Eason and Son, Dublin; East Suffolk and Ipswich Hospital.

F.—Dr. Theodore Fisher, Bristol.

G.—Mr. A. Gray, Pontlottyn; Sir William Gowers, Lond.; General Apothecaries' Co., Lond.; Messrs. Gowland and Co., Selsey; Mr. J. H. Glenny, Lossiemouth; Messrs. W. Green and Sons, Edinburgh; Messrs. Guest, Keen, and Co., Dowlais; Glasgow Southern Medical Society, Editorial Secretary of; Dr. A. E. Garrod, Lond.; Mr. Henry Goodale, Parkstone; Dr. Gillespie.

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I.—International Plasmon, Lond.

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K.—Dr. G. S. Keith, Currie, Edinburgh; Mr. H. D. Kelf, Lond.; King's Norton and Northfield Urban District Council, Clerk of; Messrs. R. A. Knight and Co., Lond.

L.—Dr. T. R. Lombe, Torquay; *Leicester Advertiser*; L. M.; *The Leisure Hour*, Lond.; Mr. Vincent Laurens, Manchester; Mr. J. Le Couteur, Lond.

M.—Dr. J. McClymont, Leyton; Mr. H. P. P. Marriott, Exmouth; Messrs. J. Maythorn and Son, Biggleswade; Medical Society of London, Hon. Secretary of; Mr. A. Möller, Castle Eden; Dr. C. Killick Millard, Leicester; Medical Society of Victoria, Melbourne, Hon. Treasurer of; Dr. Macnaughton-Jones, Lond.; Manchester Clinical Hospital, Secretary of; Dr. Maritoux, Nice; Manchester Royal Infirmary, Secretary of; Mrs. E. Montague, Lond.; Dr. R. Moynahan, Kilrush; Mr. W. G. McMillan, Lond.; Dr. E. P. McLoughlin, Lond.; Motor Power Co., Lond.; Mr. C. Mansell Moullin, Lond.; Mr. Athol Maudsley, Winchester; Mr. W. H. Martindale, Lond.; Manchester Medical Agency, Secretary of; Middlesex Hospital, Secretary Superintendent of; Messrs. P. Mackenzie and Co., Liverpool; M. W.

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